
4.6 BIOLOGICAL RESOURCES

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INTRODUCTION

This section addresses the potential direct and indirect impacts of the proposed projects on vegetation, wetland resources, wildlife, and fisheries. The Vista Oaks discussion is based on the August 19, 2003 *Biological Section* prepared by H.T. Harvey & Associates¹ (Draft EIR Appendix M); an October 8, 2002 *Rare Plant Survey* prepared by ECORP Consulting, Inc.² (Draft EIR Appendix N); the *Updated Tree Inventory and Impact Assessment – Vista Oaks, Rocklin*³ (Draft EIR Appendix O); a January 4, 2005 letter regarding the revised *Vista Oaks, Rocklin Tree Impact Calculation* from Terrance Lowell & Associates to the City of Rocklin⁴ (Draft EIR Appendix P); and California Department of Fish and Game's *Natural Diversity Database* (CNDDDB) which is a special-status plant and wildlife species database. The *Biological Section* by H.T. Harvey & Associates was prepared based on both a review of the wetland delineation, arborist report, and reconnaissance-level surveys that were conducted from February to May 2003 as well as a peer review which included at site visit on May 17, 2005.

The Highlands Parcel A discussion is based on a *Biological Assessment for Crown Piece* by ECORP (July 3, 2002) (Draft EIR Appendix Q)⁵, as well as the results of a *Peer Review Conducted for the Highlands Parcel A Project in the City of Rocklin* performed by Foothill Associates in September 2003 on the July 2002 ECORP Report (Draft EIR Appendix R)⁶. The Foothill Associates peer review incorporated pertinent species information from the August 2003 H.T. Harvey biological assessment for the Vista Oaks project. The Highlands Parcel A discussion is also based on the *Further Updated Tree Inventory and Impact Assessment – Highlands Parcel A* by Sierra Nevada Arborists dated July 30, 2003 (Draft EIR Appendix S)⁷.

In addition, Foothill Associates completed a recent peer review (May 26, 2005) of all previous biological assessments and materials for both properties (Draft EIR Appendix T)⁸. Foothill Associates reviewed the following: the July 2002 *Biological Assessment for Crown Piece* prepared by ECORP Consulting; *Jurisdictional Delineation and Biological Resources Assessment, Vista Oaks, Rocklin, CA* by Gibson & Skordal, dated December 1999; a species list from the USFWS to ECORP Consulting for the Vista Oaks property, dated December 2001⁹; a letter from ECORP Consulting to Terrance Lowell and Associates, dated December 2001; a request for a wetland verification from ECORP Consulting to the U.S. Army Corps of Engineers (Corps) dated August 2001; a wetland verification for the Vista Oaks property from the Corps to Terrance Lowell & Associates dated July 2002 (Draft EIR Appendix U)¹⁰; the results of October 2002 rare plant surveys for the Vista Oaks property; the *Updated Tree Inventory and Impact Assessment for Vista Oaks, Rocklin* prepared by Sierra Nevada Arborists for Terrance Lowell and Associates dated July 2003; the *Biological Section* prepared by H.T. Harvey and Associates for Raney Planning & Management dated August 2003; the results of a *Peer Review*

Conducted for the Highlands Parcel A Project in the City of Rocklin prepared by Foothill Associates in November 2003; and a January 2005 letter from Terrance Lowell and Associates to the City of Rocklin clarifying tree impact calculations.

The May 26, 2005 Foothill peer review also contained the results of records searches for special-status species and the results of a reconnaissance-level site assessment conducted by Foothill staff at the Vista Oaks property on May 17, 2005. Due to lack of site access, the Highlands Parcel A site was not surveyed on foot as part of the peer review, but with aerial photographs.

Pertinent comments received in response to the Notice of Preparation (NOP) for the proposed project have been integrated into the Draft EIR analysis. Plant communities are described in terms of dominant tree, shrub, and herbaceous vegetation composition and, wherever possible, classified according to the nomenclature of Holland (1986) and Sawyer and Keeler-Wolf (1995).

ENVIRONMENTAL SETTING

Project Location and Setting

Vista Oaks and Highlands Parcel A

The approximately 93-acre Vista Oaks project site and the approximately 30-acre Highlands Parcel A project site are located within the southeastern city limits of Rocklin, Placer County, California and within the *Rocklin, California* U.S. Geological Survey (USGS) quadrangle map. Interstate 80 comprises the northwestern site boundary, and the sites are bordered to the north, south, and east by existing or proposed residential development. The Vista Oaks site is bounded to the south by the City of Rocklin/City of Roseville City Limit line.

The project sites consist of gently rolling to moderately steep terrain. Elevation ranges from 184 feet National Geodetic Vertical Datum (NGVD) along Secret Ravine Creek in the southwest, to 280 feet NGVD along the grassland ridge in the south-central portion of the Vista Oaks site. Secret Ravine Creek, a perennial stream, flows through the sites from the northeast to the southwest. The project sites support riparian trees and shrubs and a broad 100-year floodplain with scattered valley oaks (*Quercus lobata*). In addition, the Highlands Parcel A site contains a Valley Elderberry Longhorn Beetle Conservation Area. The conservation area is approximately 3.2 acres and consists of 337 elderberry mitigation plantings and 433 associated native plantings. In addition, 47 elderberry bushes have been transplanted to this area from the Highlands at Cavitt Ranch site. Blue oak (*Quercus douglasii*) woodland and non-native annual grassland comprise the upland portions of the sites, primarily in their southern portions. Furthermore, the sites support perennial and seasonal wetlands, and several seasonal drainages.

The project sites, particularly within the 100-year floodplain, have historically received heavy disturbance from off-road vehicle use. According to Bob Martin, Traffic Sergeant

with the Rocklin Police Department, the sites have experienced constant dirt bike and 4-wheel off-highway vehicle use for at least the past 20 years. However, use has slowed recently due to the increased residential development in surrounding areas and because the Rocklin Police Department is now able to access the site with dirt bikes in order to halt public off-road vehicle use¹¹. Various unpaved roads crisscross the area, inhibiting the establishment of vegetation. Some of these roads are in such close proximity to each other that large tracts of bare ground have been created. Several of these off-road vehicle trails bisect the blue oak woodland habitat on the sites and lead into and out of Secret Ravine Creek.

Habitat Description

Vista Oaks and Highlands Parcel A

According to the Biological Report, prepared by H.T. Harvey & Associates, a total of nine habitat types were identified on the Vista Oaks portion of the project site. These habitats include aquatic, freshwater emergent wetland (seasonally flooded), freshwater emergent wetland (semipermanently flooded), northern volcanic mudflow vernal pool, riparian woodland, mixed woodland, blue oak woodland, non-native annual grassland, and bare ground. The interspersed of these habitat types provides foraging, cover, and breeding habitat for a diverse array of wildlife including several special-status species. Although the portion of the project area north of Secret Ravine Creek has been degraded by off-road vehicle use, the site remains of relatively high value to wildlife due to the diversity of habitats present. The habitat types and associated wildlife are described below. In addition, the Highlands Parcel A project site is described in the *Biological Assessment for Crown Piece* by ECORP ("ECORP report"), dated July 3, 2002. Like the Vista Oaks site, the Highlands Parcel A project site contains oak woodland and annual grassland on the gently rolling to moderately steep southern portion of the site, while the northern portion of the parcel contains Secret Ravine Creek and its floodplain, along with associated riparian habitat. Additionally, an ephemeral drainage exists along the eastern portion of the site.

The Biological Report, prepared by H.T. Harvey & Associates and the ECORP report identify the following existing vegetation communities on the Vista Oaks and Highlands Parcel A site, and are described as follows:

Aquatic

The Vista Oaks site contains aquatic habitat totaling approximately 1.3 acres within the low-flow channel of Secret Ravine Creek. At the time of the February 2003 site reconnaissance, the creek averaged approximately 20 feet wide and varied in depth from 2 to 3 feet. Eddies and side pools were observed along the meandering stream, and gravel and small cobbles comprised the substrate of the creek, although recent high flow events had generated much sand deposition. The banks of the well-defined channel rise several feet before reaching the broad, relatively flat 100-year floodplain. Portions of the outer streambank on some of the sharper meanders were heavily scoured and devoid of

vegetation. The majority of the streambank was covered in vegetation consisting of hydrophytic herbaceous species and some riparian shrubs. Small patches of freshwater emergent vegetation, including Baltic rush (*Juncus balticus*) and broad-leaved cattail (*Typha latifolia*), were observed along the margins of the low-flow channel. The aquatic habitat of Secret Ravine Creek receives partial shading (25 percent closed canopy) along its course throughout the project sites. In addition, the shade vegetation is sparse where most of the 100-year floodplain is and where the future proposed bridge will cross.

Secret Ravine Creek provides potential habitat for several native and introduced fish species including the Sacramento sucker (*Catostomus occidentalis*), Sacramento pike minnow (*Ptychocheilus grandis*), and green sunfish (*Lepomis cyanellus*). In addition, Secret Ravine Creek is considered an important spawning and rearing area for fall-run Chinook salmon (*Oncorhynchus tshawytscha*) and for steelhead trout (*Oncorhynchus mykiss*), both special-status species. According to the Dry Creek Conservancy Spawner Surveys from 1997 through 2004, data shows that over 33 percent of the Chinook salmon observed in the watershed were within the area from Roseville Parkway to Rocklin Road, a stretch of the creek that includes the project sites. In addition, the California Department of Fish and Game has identified Secret Ravine as the most productive spawning area in the Dry Creek Watershed.

Amphibians and reptiles expected to occur within the aquatic habitat include Pacific treefrog (*Pseudacris regilla*), western toad (*Bufo boreas*), and common garter snake (*Thamnophis sirtalis*). In addition, birds such as mallard (*Anas platyrhynchos*) and belted kingfisher (*Ceryle alcyon*) likely forage in the area. The creek serves as a source of freshwater for numerous mammal species, and provides breeding and foraging habitat for beaver (*Castor canadensis*), whose dams were observed on the Vista Oaks site during the reconnaissance surveys.

Freshwater Emergent Wetland (Seasonally Flooded)

Approximately 0.8 acres of seasonal wetlands occur on the Vista Oaks portion of the project site. The seasonal wetlands on the Vista Oaks site are supported by both freshwater groundwater seepage and surface inundation, including runoff from I-80. Several of these seasonal wetlands, particularly in the northeast portion of the Vista Oaks site, occur as drainage swales conveying runoff from the adjacent roadways east of the project site. The remaining seasonal wetlands occur in the eastern portion of the Vista Oaks property, south of Secret Ravine Creek. The seasonal wetlands occur in lowland areas and are hydrologically connected to larger seasonal drainages originating off-site to the southeast. In addition, the ECORP report identifies seasonal wetland habitat on the Highlands Parcel A portion of the project site. Common species observed within this habitat include umbrella sedge (*Cyperus* sp.), creeping spikerush (*Eleocharis macrostachya*), Mediterranean barley (*Hordeum hystris*), Baltic rush, Mexican rush (*Juncus mexicanus*), large monkey-flower (*Mimulus guttatus*), mint (*Mentha* sp.), dallis grass (*Paspalum dilitatum*), smartweed (*Polygonum* sp.), and curly dock (*Rumex crispus*).

Black phoebes (*Sayornis nigricans*), tree swallows (*Tachycineta bicolor*), and other species that feed on insects over water sources likely forage over these seasonal wetlands. In addition seasonal wetlands provide habitat for amphibians and reptiles such as the western toad, Pacific treefrog, and common garter snake. Bats such as the Yuma myotis (*Myotis yumanensis*) may also forage over seasonal wetland areas when they are flooded.

Freshwater Emergent Wetland (Semipermanently Flooded)

A 1.622-acre, marsh-like perennial wetland occurs in the north-central portion of the Vista Oaks site. The perennial wetland is supported by runoff water from I-80 that is channeled into the area and possibly by runoff from a portion of the watershed north of the freeway. A dense thicket of Himalayan blackberry (*Rubus discolor*) comprises the northern portion of the wetland, immediately adjacent to I-80. The blackberry extends approximately 50 feet south from the freeway before intergrading to a broad cattail (*Typha* sp.) dominated wetland. An adjacent dirt road and three-foot high berm comprise the eastern and southern wetland boundaries, respectively. The berm extends to the west over 200 feet before gradually fanning out. A culvert located near the west end of the berm conveys water into a small channel extending south from the berm for approximately 150 feet before entering Secret Ravine Creek. The dense cattails intergrade into a rush monoculture in the western and northern portions of the wetland. The rushes form a solid ground cover throughout this area, precluding the establishment of other hydrophytic species. At the time of the surveys, the majority of this wetland featured a heavily saturated surface, except within the cattail portion and in the area immediately adjacent to the berm, where standing water to a depth of several inches was observed.

The small amount of standing water in this wetland reduces its value to waterbirds; however, the area provides breeding habitat for red-winged blackbirds (*Agelaius phoeniceus*) and song sparrows (*Melospiza melodia gouldii*), as well as foraging habitat for a variety of passerine birds, both migrants and those breeding in nearby habitats, including the American robin (*Turdus migratorius*) and black phoebe. Amphibians and reptiles, such as the western toad, Pacific treefrog, and common garter snake, may also be found here.

Riparian Woodland

Approximately 11.46 acres of riparian woodland occurs along the banks of and immediately adjacent to Secret Ravine Creek on the Vista Oaks portion of the project site. The ECORP report notes that Waters of the United States on the Highlands Parcel A portion of the project site, as verified by the U.S. Army Corps of Engineers in 1994, include 0.36 acres of wetlands (0.18 acre of seasonal wetland and 0.18 acre of seeps) and 1.14 acres of other waters (0.14 acre of intermittent drainage and 1.0 acre of perennial stream). Overall, the riparian woodland habitat forms a relatively narrow band along the stream's course, except in the northeast portion of the Vista Oaks portion of the project site where it extends up to 150 feet from the stream's edge. On Highlands Parcel A, the riparian woodland meanders through a sandy/silty floodplain. Immediately upstream of

the Highlands Parcel A portion of the project site the creek is more confined to an incised, boulder-lined channel. Dominant overstory species observed within the riparian woodland include black willow (*Salix gooddingii*), white alder (*Alnus rhombifolia*), and shining willow (*Salix lucida* ssp. *lasiandra*). These species form a closed canopy in the northeast portion of the site and a more or less open canopy throughout the remainder of the site; however, they still provide some shaded aquatic habitat. The shaded aquatic habitat is an important component to wildlife habitat because of its biomass and water availability. Himalayan blackberry makes up the majority of the dense understory shrub layer, although some coyote brush (*Baccharis pilularis*) and wild rose (*Rosa californica*) were observed.

Portions of the riparian woodland habitat, particularly in the northeast corner of the Vista Oaks portion of the project site, experience seasonal flooding and support some seasonal wetlands beneath the canopy. Hydrophytic vegetation identified within these wetland areas included blue vervain (*Verbena hastata*), stinging nettle (*Urtica dioica*), curly dock (*Rumex crispus*), and smartweed (*Polygonum* spp.).

Riparian woodlands represent some of the most important wildlife habitats due to their high floristic and structural diversity, high biomass (and therefore high food abundance), and high water availability. The riparian woodlands provide habitat for many wildlife species that forage in the adjacent grassland habitat but find cover or even nest in the large oaks including raptors such as the red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), great horned owl (*Bubo virginianus*), and American kestrel (*Falco sparverius*). Other bird species potentially nesting and foraging in this habitat include the bushtit (*Psaltiriparus minimus*), chestnut-backed chickadee (*Poecile rufescens*), Nuttall's woodpecker (*Picoides nuttallii*), and Bewick's wren (*Thryomanes bewickii*). In addition to providing breeding, foraging, and roosting habitat for a diverse array of animals, the riparian woodland habitat provides movement corridors through surrounding habitats for both resident and migratory wildlife. The riparian woodlands on the project site are contiguous with those outside the project area, which increases the value of this habitat to wildlife.

Leaf litter, fallen tree branches, and logs provide cover for the slender salamander (*Batrachoseps attenuatus*), western toad, and Pacific treefrog. The western fence lizard (*Sceloporus occidentalis*), western skink (*Eumeces skiltonianus*), and southern alligator lizard (*Gerrhonotus multicarinatus*) are also expected to occur on site, as are several snake species, including the racer (*Coluber constrictor*) and common garter snake.

Seeps

Seeps are groundwater discharge areas that remain wet for most of the year, occasionally drying out in the late summer. Seeps are dominated by both annual and perennial herbaceous and woody vegetation. Four seeps occur in the southwestern portion of the Highlands Parcel A portion of the project site.

Intermittent Drainages

Intermittent drainages exist near the eastern project boundary of Highland Parcel A and drain into Secret Ravine Creek. They are characterized by narrowly cut channels with rocky substrates and little channel vegetation. They contain water only during and shortly after storm events and are associated with the oak savannah and riparian scrub habitats.

Mixed Woodland

Mixed woodland habitat occurs in the eastern portion of the Vista Oaks project site, adjacent to the riparian woodland on the south side of Secret Ravine Creek. This approximately 3.25-acre area is situated within the 100-year floodplain, and is composed of a diverse array of tree species, including some riparian trees. Outcrops of large granite boulders are distributed throughout this area. In addition, the ECORP report identified mixed woodland habitat on the Highlands Parcel A portion of the project site. Dominant tree species observed within the mixed woodland include interior live oak (*Quercus wislizenii*), valley oak (*Quercus lobata*), blue oak, and scattered foothill pine (*Pinus sabiana*). Poison oak (*Toxicodendron diversilobum*) forms dense thickets around the perimeter of many of the outcrops, and California coffeeberry (*Rhamnus californica*) and gooseberry (*Ribes* spp.) are common within the mixed woodland habitat. Beneath the partially-shaded canopy of the mixed woodland, dense annual grasses and forbs, similar to those elsewhere on site, form the understory.

The mixed woodland habitat offers forage and shelter to many of the same species using the adjacent riparian woodland, in addition to species preferring the presence of oaks and conifers. Mammals likely to occur in the mixed woodland include the California myotis (*Myotis californicus*), long-tailed weasel (*Mustela frenata*), and striped skunk (*Mephitis mephitis*). Birds likely to use this habitat include the western screech owl (*Otus kennicottii*), red-breasted sapsucker (*Sphyrapicus ruber*), downy woodpecker (*Picoides pubescens*), red-breasted nuthatch (*Sitta canadensis*), and house wren (*Troglodytes aedon*). The granite outcrops also provide shelter for amphibians and reptiles including the western toad, western skink, western fence lizard, and gopher snake.

Blue Oak Woodland

Approximately 29.5 acres of blue oak woodland were mapped on the Vista Oaks project site. The blue oak woodland habitat occurs along the floodplain on the north side of Secret Ravine Creek, between I-80 and the riparian woodland habitat, and on the north facing slopes in the southern portion of the site, immediately upslope of the 100-year floodplain. In addition, the ECORP report identifies blue oak woodland habitat on portion of the Highlands Parcel A portion of the project site. Canopy cover within this woodland type approaches 50% canopy closure and consists of blue oaks only. Little if any recruitment of blue oak was observed. The understory is mostly composed of dense non-native annual grasses and a few forb species, including ripgut brome (*Bromus*

diandrus), wild oat (*Avena fatua*), Italian ryegrass (*Lolium multiflorum*), common chickweed (*Stellaria media*), and miner's lettuce (*Claytonia perfoliata*).

In addition to producing the acorns used as forage by a variety of species, including acorn woodpecker (*Melanerpes formicivorus*), western scrub-jay (*Aphelocoma californica*), and mule deer (*Odocoileus hemionus*), several snags and trees containing cavities occur in the oak woodland. These structures provide nesting habitat for birds such as the western blue bird (*Salia mexicana*), tree swallow, and western screech owl, as well as providing potential roost sites for bats. Raptors, including the red-tailed hawk, American kestrel, and great horned owl, may also nest in these woodlands. In addition, coyote (*Canis latrans*) and gray fox (*Urocyon cinereoargenteus*) may forage in blue oak woodlands and wildlife species dominant in non-native grassland habitat (see below) flourish beneath the oak canopy.

Non-native Annual Grassland

Approximately 42.05 acres of non-native annual grassland were mapped on the Vista Oaks project site, including areas within the 100-year floodplain and a large area covering the hill in the southwest portion of the site. In addition, according to the ECORP report, annual grassland was identified on the Highlands Parcel A portion of the project site. The grassland along the floodplain occurs in scattered patches between blue oak woodland and areas dominated by bare ground, while the grassland in the southwest portion of the site occurs as a large, contiguous tract. All the grassland areas mapped on the project site receive a significant amount of disturbance from off-road vehicle use, but particularly along the floodplain, as evidenced by the multitude of tracks crisscrossing the landscape. Dominant species observed in the non-native annual grassland on site included soft brome (*Bromus hordeaceus*), wild oat (*Avena fatua*), Italian ryegrass (*Lolium multiflorum*), ripgut brome (*Bromus diandrus*), filaree (*Erodium botrys*), cut-leaved geranium (*Geranium dissectum*), and dwarf sack clover (*Trifolium depauperatum* var. *depauperatum*).

The non-native grasslands are productive wildlife habitat. Grassland bird species, such as mourning dove (*Zenaida macroura*), savannah sparrow (*Passerculus sandwichensis*), and white-crowned sparrow (*Zonotrichia leucophrys*), as well as rodents, such as the California ground squirrel (*Spermophilus beecheyi*), deer mouse (*Peromyscus maniculatus*), and California vole (*Microtus californicus*) all forage on the seed crop this habitat provides. These species, in turn, attract predators such as gopher snake (*Pituophis melanoleucus*), American kestrel, red-tailed hawk, northern harrier (*Circus cyaneus*), and coyote (*Canis latrans*). Other common grassland species that were observed on-site include the western meadowlark (*Sturnella neglecta*) and black-tailed hare (*Lepus californicus*). Reptile species expected to occur here include the western fence lizard, western skink, gopher snake, and ringneck snake (*Diadophis punctatus*).

Northern Volcanic Mudflow Vernal Pool

Two vernal pools were identified in both of the verified wetland delineations conducted on the Vista Oaks project site (Gibson & Skordal 1999, ECORP Consulting 2001). The vernal pools occur in the non-native annual grassland in the southern portion of the site and comprise an area of 0.003 acres. Both of the vernal pools were observed during the site visits by H.T. Harvey & Associates biologists. The pools occur within a vernal mesic, non-native grassland in which several other swale-like, potential vernal pool depressions were observed. Gibson & Skordal (1999) mapped two additional vernal pools immediately south of and adjacent to the project site. The California Department of Fish and Game (CDFG) Natural Diversity Database (CNDDB 2002) also reports several occurrences of northern volcanic mudflow vernal pools in the immediate vicinity of the project site and one occurrence, including two pool areas spanning 78 acres, overlapping this grassland area on site and extending off site, to the south.

In addition to providing breeding habitat for several species of amphibians, including the western toad and Pacific tree frog, vernal pools provide breeding habitat for a number of invertebrates including special-status invertebrates like the vernal pool fairy shrimp (*Brachinecta lynchi*) and vernal pool tadpole shrimp (*Lepidurus packardi*). Vernal pools may also serve as wintering habitat for waterbirds such as mallard and greater yellowlegs (*Tringa melanoleuca*). When the pools dry, the same species found on the surrounding non-native grasslands would use the site.

Bare Ground

Bare ground occurs within the 100-year floodplain on the Vista Oaks site, in areas that have received heavy off-road vehicle use. Sand, derived from granitic parent material, comprises the substrate in these areas. The approximately 2.7 acres of bare ground habitat provide few resources to wildlife species; however, California horned lizard, a California Species of Special Concern, may occur here. In addition, other species associated with adjacent riparian or woodland habitats likely forage on the bare soil to some extent; however, use of this habitat by wildlife is expected to be limited.

Jurisdictional Waters of the United States

Both the Vista Oaks and Highlands Parcel A project sites have been identified as containing jurisdictional waters of the United States; see Table 4.6-1 below.

Table 4.6-1	
Waters of the United States on the Vista Oaks and Highlands Parcel A Project Sites	
Classification	Existing Acreage
<i>Vista Oaks</i>	
Riparian Wetland	1.11
Seasonal Wetland	2.46
Vernal Pool	0.01
Channel	0.05
Perennial Creek	1.85
Intermittent Drainage	0.01
Subtotal	5.49
<i>Highlands Parcel A</i>	
Seasonal Wetland	0.18
Seeps	0.18
Perennial Creek	1.00
Intermittent Drainage	0.14
Subtotal	1.50
TOTAL	6.99
<i>Sources:</i> Vista Oaks – ECORP 2001 (as confirmed by H.T. Harvey & Associates [2003]); Highlands Parcel A – ECORP 2002	

Vista Oaks

Two jurisdictional wetland delineations, both verified by the Army Corps of Engineers (ACOE), were conducted on the Vista Oaks project site. Gibson and Skordal (1999) prepared a delineation for a portion of the project site that did not include Secret Ravine Creek or the majority of the area within the 100-year floodplain. ECORP Consulting, Inc. conducted a jurisdictional delineation for the entire 93-acre project site in August 2001. ECORP identified 5.493 acres of waters which may be identified as jurisdictional waters of the United States (Table 4.6-1).

Potential Waters of the U.S. on site identified by H. T. Harvey & Associates include approximately 3.66 acres of potential wetlands (seasonal wetlands, riparian wetlands, and vernal pools), and an estimated 1.92 acres of tributary waters, totaling 5.58 acres. H.T. Harvey & Associates identified an additional 0.087 acres of potentially jurisdictional seasonal wetlands, not identified in the previous ECORP delineation, thus the difference in total acreages (HTH: 5.58 acres, ECORP: 5.493 acres). However, these additional wetlands are outside of the impact zone of the proposed project.

The following ECORP classifications correspond to tributary waters (totaling 1.92 acres) within the regulated section and to aquatic habitat (also totaling 1.92 acres) within the biotic habitat section of this report: channel, perennial creek, and intermittent drainage (totaling 1.913 acres).

Because the majority of the seasonal wetlands on the project site occur along and as a part of drainage channels with significant flows that drain directly into tributary waters (Secret Ravine Creek), they are potentially subject to the jurisdiction of the ACOE under Section 404 of the Clean Water Act.

Highlands Parcel A

The 2002 ECORP *Biological Assessment for Crown Piece* notes that Waters of the United States on the project site, as verified by the ACOE in 1994, include 0.36 acres of wetlands (0.18 acre of seasonal wetland and 0.18 acre of seeps) and 1.14 acres of other waters (0.14 acre of intermittent drainage and 1.0 acre of perennial stream).

Special-Status Species Overview

Federal and State endangered species legislation gives special status to several plant and animal species known to occur in the vicinity of the project site. In addition, State resource agencies and professional organizations, whose lists are recognized by agencies when reviewing environmental documents, have identified as sensitive some species occurring in the vicinity of the project site. Such species are referred to collectively as “species of special status” and include: plants and animals listed, proposed for listing, or candidates for listing as threatened or endangered under the Federal Endangered Species Act (FESA) or the California Endangered Species Act (CESA), animals listed as “fully protected” under the California Fish and Game Code, animals designated as “Species of Special Concern” by the CDFG.

The CDFG has also produced three lists (amphibians and reptiles, birds, and mammals) of “species of special concern” that serve as “watch lists.” Species on these lists either are of limited distribution or the extent of their habitats has been reduced substantially, such that threat to their populations may be imminent. Thus, their populations should be monitored. In addition, species of special concern may receive special attention during environmental review.

Table 4.6-2, on the following pages, provides an overview of potentially-occurring special status species on the Vista Oaks and Highlands Parcel A project sites.

Table 4.6-2 Names, Status, and Potential Occurrence of Special-Status Species on the Vista Oaks and Highlands Parcel A Project Sites			
NAME	*STATUS	HABITAT	POTENTIAL FOR OCCURRENCE ON SITES
Federal or State Endangered Species			
Boggs Lake hedge-hyssop (<i>Gratiola heterosepala</i>)	SE	Marshes, swamps and vernal pools.	Low. Marginal to poor habitat is present on the project sites.
Peregrine falcon (<i>Falco peregrinus</i>) (nesting)	DT/R/BM; State Fully Protected	Forages in many habitats; requires cliffs for nesting.	Low. Potential winter visitor/migrant.
Sacramento Orcutt grass (<i>Orcuttia viscida</i>)	FE, SE	Vernal pools.	None. Suitable habitat is not present on the project sites.
Slender Orcutt grass (<i>Orcuttia tenuis</i>)	FT, SE	Vernal pools.	None. Suitable habitat is not present on the project sites.
Southwestern willow flycatcher (<i>Empidonax traillii extimus</i>)	SE, FE	Breeds locally in riparian habitats in mountains and southern deserts.	Low. Rare migrant, primarily during fall in region of project sites; <i>E. t. extimus</i> not expected to occur on site.
Vernal pool tadpole shrimp (<i>Lepidurus packardii</i>)	FE	Grass or mud-bottomed swales in grasslands on old alluvial soils underlain by hardpan.	Low. The two small vernal pools present on site do not have either the depth or duration to support this species. Nearest recorded occurrence almost six miles from site (CNDDB 2003).
Federal or State Threatened Species			
Bald eagle (<i>Haliaeetus leucocephalus</i>) (nesting and wintering)	SE, FT, Fully Protected	Requires large bodies of water, or free-flowing rivers with abundant fish and adjacent snags and large trees for perching and nesting.	Low. No breeding habitat; may occur as rare forager.

Table 4.6-2 Names, Status, and Potential Occurrence of Special-Status Species on the Vista Oaks and Highlands Parcel A Project Sites			
NAME	*STATUS	HABITAT	POTENTIAL FOR OCCURRENCE ON SITES
California red-legged frog (<i>Rana aurora draytonii</i>)	FT, CSSC	Streams, freshwater pools, and ponds with overhanging vegetation.	None. Red-legged frogs are considered to be extinct in Placer County (Jennings and Hayes 1994). Judged to be absent from project sites.
Steelhead - central valley ESU (<i>Oncorhynchus mykiss</i>)	FT ¹	Cool streams with suitable spawning habitat and conditions allowing migration.	High. No suitable spawning habitat within project area but known to occur in Secret Ravine Creek.
Swainson's hawk (<i>Buteo swainsoni</i>) (nesting)	ST	Breeds in stands with few trees in juniper-sage flats, riparian areas, and oak savannah; forages in adjacent livestock pasture, grassland, or grain fields.	Moderate. Marginally suitable nesting and foraging habitat present; nearest known nest record approximately 5.5 miles west of the site (CNDDDB 2003).
Valley elderberry longhorn beetle (<i>Desmocerus californicus dimorphus</i>)	FT	Associated with elderberry trees, <i>Sambucus</i> spp., during entire lifecycle.	High. A Valley elderberry longhorn beetle conservation area is present on the Highlands Parcel A project site. Nearest recorded occurrence less than 1½ miles from Vista Oaks site (CNDDDB 2003).
Vernal pool fairy shrimp (<i>Branchinecta lynchi</i>)	FT	Grassed or mud-bottomed swales, earth slump or basalt-flow depression pools in grasslands.	Low. Two small vernal pools of marginal quality present on the Vista Oaks project site. Nearest recorded occurrence less than one mile from site (CNDDDB 2003).
California Species of Special Concern			
Burrowing owl (<i>Athene cunicularia</i>) (burrow sites)	CSSC, FSC	Grasslands and ruderal habitats.	Low. Suitable foraging habitat present; no breeding habitat observed during reconnaissance surveys; nearest recorded occurrence over five miles from project sites (CNDDDB 2003).
California horned lizard (<i>Phrynosoma coronatum frontale</i>)	CSSC	Frequents a wide variety of habitats; most common in lowlands along sandy washes with scattered low bushes.	Moderate. Suitable habitat occurs in floodplain along Secret Ravine Creek.

¹ Central Valley fall/late fall-run ESU refers to populations spawning in the Sacramento & San Joaquin Rivers and their tributaries.

**Table 4.6-2
Names, Status, and Potential Occurrence of Special-Status Species
on the Vista Oaks and Highlands Parcel A Project Sites**

NAME	*STATUS	HABITAT	POTENTIAL FOR OCCURRENCE ON SITES
California mastiff bat (<i>Eumops perotis californicus</i>)	CSSC	Found in central and south coastal California. Roosts primarily in cliffs or high buildings.	Moderate. No suitable roosting habitat; may be present as a forager.
Chinook salmon-Central Valley fall/late fall-run (<i>Oncorhynchus tshawytscha</i>)	FC ² , CSSC	Cool streams that reach the ocean and that have shallow, partly shaded pools, riffles, and runs.	High. No suitable spawning habitat within project area but known to occur in Secret Ravine Creek.
Cooper's hawk (<i>Accipiter cooperii</i>) (nesting)	CSSC	Nests in woodlands, forages in many habitats in winter and migration.	High. Suitable nesting and foraging habitat present; observed in project area during a reconnaissance survey.
Ferruginous hawk (<i>Buteo regalis</i>) (wintering)	CSSC	Forages in grasslands and occasionally in other open habitats during migration and winter.	Low. Potential winter migrant.
Foothill yellow-legged frog (<i>Rana boylei</i>)	CSSC	Rocky streams in a variety of habitats. Found in coast ranges.	Low. Species known to occur in Placer county and suitable habitat present within Secret Ravine Creek. High level of non-native predators likely has resulted in extirpation of species from area.
Golden eagle (<i>Aquila chrysaetos</i>) (nesting and wintering)	CSSC, Fully Protected	Breeds on cliffs or in large trees or electrical towers, forages in open areas.	Low. No suitable nesting habitat; may occur as migrant.
Loggerhead shrike (<i>Lanius ludovicianus</i>)	CSSC, FSC	Nests in tall shrubs and dense trees, forages in grasslands, marshes, and ruderal habitats.	High. Suitable nesting and foraging habitat present.
Long-billed curlew (<i>Numenius americanus</i>) (nesting)	CSSC	Upland shortgrass prairies and wet meadows are used for nesting; coastal estuaries, open grasslands, and croplands are used in winter.	Low. Potential winter migrant.

² Federal listing includes all runs in the Sacramento and San Joaquin Rivers, and their tributaries

**Table 4.6-2
Names, Status, and Potential Occurrence of Special-Status Species
on the Vista Oaks and Highlands Parcel A Project Sites**

NAME	*STATUS	HABITAT	POTENTIAL FOR OCCURRENCE ON SITES
Long-eared owl (<i>Asio otus</i>) (nesting)	CSSC	Dense riparian and live oak thickets near meadow edges, and nearby woodland and forest habitats; also found in dense conifer stands at higher elevations.	Low. Breeding and foraging habitat on site, however rare and localized in county, extremely unlikely to occur on site.
Merlin (<i>Falco columbarius</i>) (wintering)	CSSC	Uses many habitats in winter and migration.	Moderate. Potential winter visitor/migrant but does not breed in California.
Northern harrier (<i>Circus cyaneus</i>) (nesting)	CSSC	Forages in marshes, grasslands, and ruderal habitats; nests in extensive marshes and wet fields.	High. Suitable foraging habitat present; suitable nesting habitat limited; observed in area.
Pallid bat (<i>Antrozous pallidus</i>)	CSSC	Roosts in rock crevices, caves, mine shafts, under bridges, in buildings and tree hollows. Forages in open lowland areas.	Moderate. Snags and cavities in blue oak woodland provide potential roost sites; grasslands and woodlands provide suitable foraging habitat.
Prairie falcon (<i>Falco mexicanus</i>) (nesting)	CSSC	Occurs in open habitats such as grasslands, desert scrub, rangelands, and croplands.	Low. Potential winter migrant.
Sharp-shinned hawk (<i>Accipiter striatus</i>) (nesting)	CSSC	Nests in woodlands, forages in many habitats in winter and migration.	Moderate. Potential winter visitor/migrant.
Short-eared owl (<i>Asio flammeus</i>) (nesting)	CSSC	Breeds in dense vegetation in open grassland and marshes.	Low. Potential winter migrant.
Tricolored blackbird (<i>Agelaius tricolor</i>) (nesting colony)	CSSC, FSC	Breeds near fresh water in dense emergent vegetation.	None. No suitable nesting habitat.
Vaux's swift (<i>Chaetura vauxi</i>) (nesting)	CSSC	Nests in snags in coastal coniferous forests or, occasionally, in chimneys; forages aerially.	Low. May occasionally pass through site as migrant.

**Table 4.6-2
Names, Status, and Potential Occurrence of Special-Status Species
on the Vista Oaks and Highlands Parcel A Project Sites**

NAME	*STATUS	HABITAT	POTENTIAL FOR OCCURRENCE ON SITES
Western pond turtle (<i>Clemmys marmorata</i>)	CSSC, FSC	Permanent or nearly permanent water in a variety of habitats.	Moderate. Suitable habitat along Secret Ravine Creek. Nearest known occurrence less than three miles from site (CNDDDB 2003).
Western spadefoot toad (<i>Scaphiopus hammondi</i>)	CSSC, FSC	Grasslands with temporary pools.	Moderate. Vernal pools on Vista Oaks site of insufficient size and quality; suitable habitat may be present on Highlands site. Predators, e.g. bullfrogs, likely present in seasonal wetlands. Nearest recorded occurrence less than three miles from sites (CNDDDB 2003).
Yellow-breasted chat (<i>Icteria virens</i>) (nesting)	CSSC	Breeds in riparian habitats having dense understory vegetation, such as willow and blackberry.	Moderate. Suitable breeding and foraging habitat along Secret Ravine Creek.
State Protected Species			
White-tailed kite (<i>Elanus leucurus</i>) (nesting)	Fully Protected	Nests in tall shrubs and trees, forages in grasslands, marshes, and ruderal habitats.	High. Suitable nesting and foraging habitat present; observed in area.
<p>*SPECIAL STATUS SPECIES CODE DESIGNATIONS</p> <p>FE = Federally listed Endangered FT = Federally listed Threatened FSC = Federal Species of Concern DT/R/BM = Delisted Taxon/Recovered/Being Monitored SE = State-listed Endangered ST = State-listed Threatened FC = Federal Candidate. Sufficient biological information to support a proposal to list the species as Endangered or Threatened CSSC = California Species of Special Concern SP = State Protected Species Fully protected Fully protected species may not be taken or possessed without a permit from the FG Commission and/or the DFG. Information on Fully Protected species can be found in DFG Code Sections 3511, 4700, 5050, and 5515.</p>			

Special-Status Plant Species

Vista Oaks

Reconnaissance-level surveys for special-status plant species and their associated habitats were conducted on the Vista Oaks site by H.T. Harvey in March 2003. A query of the California Natural Diversity Database (CNDDB 2003) was performed to identify special-status plant species potentially occurring in the project vicinity. Specific habitats identified in the query included aquatic, freshwater marsh, meadows and seeps, riparian woodland, riparian scrub, riparian forest, cismontane woodland, valley and foothill grassland, and vernal pools. These CDFG designated habitats were chosen for the similarity of their constituent species to those on the project site. In addition, Foothills Associates conducted a Peer Review for the potential presence of Special-Status Plant Species for the Highlands Parcel A and Vista Oaks Properties.

Many special-status plant species were identified in these queries, approximately half of which occur in habitats similar to those mapped on the project site. Several of these species were rejected because they have microhabitat requirements not found on the project site, including the presence of serpentine soils, heavy clay soils, alkaline soils, and/or occur at higher elevations. As a result, it was determined that three special-status plant species potentially occur on the project site. These special-species are: Boggs Lake hedge-hyssop (*Gratiola heterosepala*), slender Orcutt grass (*Orcuttia tenuis*), and Sacramento Orcutt grass (*Orcuttia viscida*).

Highlands Parcel A

As noted in the July 2002 *Biological Assessment for Crown Piece* (p.1) prepared by ECORP Consulting, the Highlands Parcel A project site has been the subject of field surveys for special-status plant and wildlife species since 1992. Because of the adjacency of the Highlands Parcel A site to the Vista Oaks site and because the habitat types on the two project sites are similar, any potentially-occurring special-status plant species identified in the ECORP report are also considered to potentially occur on the Vista Oaks site. Please refer to the following discussion, as well as Table 4.6-2.

Vista Oaks and Highlands Parcel A

Foothill Associates (May 2005) analyzed the potential occurrence of special-status plant species on the two project sites based on the results of a literature review of the aforementioned biological reports, as well as an updated query of the California Natural Diversity Database (CNDDB) for species occurrence records within the *Rocklin, California* and eight surrounding USGS topographic quadrangles. Table 4.6-1 includes the common name and scientific name for each species, regulatory status (federal, State, and local), habitat descriptions, and potential for occurrence at the project sites. Expanded descriptions for these species are provided below. According to the query, it was determined that 3 special-status plant species potentially occur on the project site. These special-status species are: Boggs Lake hedge-hyssop (*Gratiola heterosepala*),

Sacramento Orcutt grass (*Orcuttia viscida*), and slender Orcutt grass (*Orcuttia tenuis*). The following set of criteria has been used to determine each species' potential for occurrence on the sites:

- Present: Species known to occur on the site, based on CNDDDB records, and/or was observed on site during the field survey(s).
- Likely to Occur: Species known to occur on or near the site (based on professional expertise specific to the site or species); suitable habitat exists on-site.
- Low: Species known to occur in the vicinity of the site; marginal habitat exists on-site **-OR-** Species is not known to occur in the vicinity of the site, however, suitable habitat exists on-site.
- None: Species is not known to occur on or in the vicinity of the site; suitable habitat for the species does not exist on-site. **-OR-** Species was surveyed for during the appropriate season with negative results.

Boggs Lake Hedge-Hyssop (*Gratiola heterosepala*). Federal Listing Status: None; State Listing Status: Endangered. This annual herb blooms from April to August, and occurs in marshes and swamps and vernal pools on clay soils. The range of this species includes Fresno, Lake, Lassen, Madera, Merced, Modoc, Placer, Sacramento, Shasta, Siskiyou, San Joaquin, Solano, and Tehama counties. CNDDDB reports an occurrence of this species within one mile of the Vista Oaks project site, on Johnson Ranch between Rocklin and Roseville. The potential for occurrence on the project sites is considered low. The seasonal wetlands/vernal pools at the Vista Oaks site present marginal to poor habitat for this species, and the species was not observed during 2002 directed plant surveys on the Vista Oaks property; nor has this species been documented on the Highlands Parcel A site.

Sacramento Orcutt grass (*Orcuttia viscida*). Federal Listing Status: Endangered; State Listing Status: Endangered. The flowering period for this annual herb extends from April to July. Sacramento Orcutt grass is known to occur in vernal pools and is endemic to Sacramento County at elevations from 100 to 300 feet. CNDDDB (2003) reports several occurrences of this species approximately 7 miles south of the project sites near Orangevale. The species is considered to have no potential for occurrence on the project sites, because suitable habitat is not present. This species was not observed during 2002 directed plant surveys on the Vista Oaks property.

Slender Orcutt grass (*Orcuttia tenuis*). Federal Listing Status: Threatened; State Listing Status: Endangered. This annual herb blooms from May to October and occurs in vernal pools within annual grasslands and blue oak woodlands, at elevations of 100 to 5,280 feet. The range of slender Orcutt grass includes Lake, Lassen, Plumas, Sacramento, Shasta, Siskiyou, and Tehama counties. Known occurrences of slender Orcutt grass have not been documented in Placer County. This species is considered to have no potential for occurrence on the project sites.

Suitable habitat is not present, and this species was not observed during 2002 directed plant surveys at the Vista Oaks property.

Special-Status Animal Species

Vista Oaks

Special-status animal species that may potentially occur in the project vicinity, in habitats similar to those found on the project sites, are described below. The legal status and likelihood of occurrence of these species on the sites are presented in Table 4.6-1. Expanded descriptions are included only for those species for which potentially suitable breeding habitat occurs on the project sites, for which specific surveys were conducted, or for which the resource agencies have expressed particular concern. The discussion is based on records searches and review of previous environmental documents conducted for the Vista Oaks site by H.T. Harvey & Associates (August 2003).

Highlands Parcel A

As indicated previously, the Highlands Parcel A project site has been the subject of field surveys for special-status plant and wildlife species by ECORP Consulting since 1992. Most potentially-occurring special-status animal species on the Highlands Parcel A project site are among those previously evaluated in the Biological Report prepared by H.T. Harvey & Associates for the Vista Oaks site. However, the July 2002 ECORP *Biological Assessment for the Crown Piece* also identifies suitable habitat for the western spadefoot toad (*Scaphiopus hammondi*) on the Highlands Parcel A site. Please refer to the following discussion, as well as Table 4.6-2.

Vista Oaks and Highlands Parcel A

The project sites are outside the known distribution for the California red-legged frog (*Rana aurora draytonii*), and the sites lack suitable habitat for the tri-colored blackbird (*Agelaius tricolor*). Other special-status species may uncommonly occur in the project area as rare visitors, migrants, or transients, but are not expected to breed on the sites except on rare occasions, if at all. These uncommonly occurring species include the long-billed curlew (*Numenius americanus*), American peregrine falcon (*Falco peregrinus anatum*), bald eagle (*Haliaeetus leucocephalus*), golden eagle (*Aquila chrysaetos*), sharp-shinned hawk (*Accipiter striatus*), ferruginous hawk (*Buteo regalis*), merlin (*Falco columbarius*), prairie falcon (*Falco mexicanus*), short-eared owl (*Asio flammeus*), burrowing owl (*Athene cunicularia*), willow flycatcher (*Empidonax traillii*), and Vaux's swift (*Chaetura vauxi*). The California mastiff bat (*Eumops perotis californicus*) falls into this category as well.

Special-status species that may breed on, or directly adjacent to, the project sites include the vernal pool tadpole shrimp (*Lepidurus packardii*), vernal pool fairy shrimp (*Branchinecta lynchi*), valley elderberry longhorn beetle (*Desmocerus californicus*), western pond turtle (*Clemmys marmorata*), California horned lizard (*Phrynosoma*

coronatum frontale), Swainson's hawk (*Buteo swainsoni*), Cooper's hawk (*Accipiter cooperii*), northern harrier (*Circus cyaneus*), white-tailed kite (*Elanus leucurus*), loggerhead shrike (*Lanius ludovicianus*), yellow-breasted chat (*Icteria virens*), and pallid bat (*Antrozous pallidus*). Below are expanded descriptions for the federal or State Endangered or Threatened Species. Except where otherwise noted, the discussion applies to both the Vista Oaks and Highlands Parcel A project sites.

Invertebrates

Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*). Federal Listing Status: Threatened; State Listing Status: None. The bodies of valley elderberry longhorn beetles (VELB) range in size from 13 to 25 mm, with males typically shorter and stouter than females. The beetles have long antennae, often in excess of two-thirds the length of their body. Adult beetles feed upon the leaves of elderberry (*Sambucus* spp.) shrubs and lay their eggs within crevices of the bark on the stems of the plant (Arnold et al. 1994). After about ten days, the eggs hatch and the larvae bore into the pitch. The larvae and pupae of the beetle live within the stem of the shrub for up to two years before they pupate. Upon pupation, the adults chew through the bark leaving a distinctive exit hole that can be used to confirm the presence of the species without direct observation of individuals.

VELB historically occurred throughout the Central Valley, from Shasta County south into Kern County (Arnold et al. 1994). In contrast, surveys conducted between 1984 and 1991 detected VELB in only 12 patches of natural riparian vegetation along the Sacramento, American, and San Joaquin rivers and their tributaries (Arnold et al. 1994). Habitat loss is the single greatest factor contributing to the decline of this species. Riparian forests throughout the Central Valley have been destroyed as a result of human activities associated with urban development, agriculture, and water diversions and conveyance.

VELB was listed as Threatened by the U.S. Department of the Interior in 1980. The State of California has not designated any insect as Endangered, Threatened, Fully Protected, or a Species of Concern. Conservation efforts aimed at the species' recovery have included protecting existing elderberry thickets, replanting elderberry shrubs, and transplanting elderberry shrubs inhabited by beetle larvae to new sites. Two sections of the riparian forest community along the American River have been designated as critical habitat for VELB.

Elderberry bushes have been identified and mapped within the project area, specifically on both project sites (Sierra Nevada Arborists 2002). In addition to the existing elderberry shrubs on the site, a Valley elderberry Longhorn Beetle Conservation Area has been planted on the site as mitigation for elderberry impacts associated with the Highlands at Cavitt Ranch subdivision. The conservation area is approximately 3.2 acres and consists of 337 elderberry mitigation plantings, and 433 associated native plantings. In addition, 47

elderberry bushes have been transplanted to this area from the Highlands at Cavitt Ranch subdivision. A minimum 100-foot buffer must be maintained around the conservation area as required by the USFWS Guidelines. The potential for VELB to occur on the site is considered high.

Vernal Pool Fairy Shrimp (*Branchinecta lynchi*). Federal listing status: Threatened; State listing status: None. The vernal pool fairy shrimp is a member of the aquatic crustacean order Anostraca and is endemic to ephemeral fresh water habitats referred to as vernal pools. Their current distribution is restricted to vernal pools within a geographic range extending from Shasta County south through the Central Valley into Tulare County, and along the central coast range from northern Solano County south into San Benito County (USFWS 1994). The vernal pool fairy shrimp species, however, occurs sporadically within local vernal pool complexes. The total population of vernal pool fairy shrimp is known from only 32 locations, about a quarter of which are represented by a single pool. The vernal pool fairy shrimp is in danger of extinction principally as the result of flood control, highway, and utility projects, urban development, conversion of native habitats to agriculture, and stochastic events by virtue of the small isolated nature of many of the remaining populations (USFWS 1994).

Vernal pools form in Mediterranean climates where shallow depressions fill with rainwater during fall and winter and then dry via the evaporative process in spring. Percolation of the water is prevented by an impervious layer, which may be clay pan, hardpan, or a volcanic stratum. The vernal pool fairy shrimp matures rapidly which allows it to persist in pools that are filled for only a short period, but it can persist into the spring when and where pools persist longer. The active period for this species of shrimp has been observed to extend from early December to early May (USFWS 1994). The shrimp play an important role in the community ecology of these pools and are themselves ecologically dependent on seasonal fluctuations in this habitat. Important factors influencing their prevalence and persistence within pools include; the absence or presence of water during specific times of the year, the duration the water persists, and water chemistry that includes salinity levels, conductivity, amount of dissolved solids, and pH (USFWS 1994).

The vernal pool fairy shrimp range in size from 0.4 to 1.0 inches. In general, vernal pool fairy shrimp eat algae, bacteria, protozoa, rotifers, and bits of detritus (Pennak 1989, USFWS 1994). Female fairy shrimp carry eggs in a ventral brood sac. The eggs are either dropped to the bottom or remain in the sac and sink with the female when she dies. The population survives through the dry summer months as diapaused eggs in the pool sediment. Depending upon the species, the resting eggs of fairy shrimp can survive freezing, heat, and prolonged desiccation. Some of these eggs will hatch when the pool fills with water in subsequent seasons, while the remaining eggs remain in the sediment. Eggs contained within the sediment at any given point can represent eggs deposited from several breeding seasons. The early stages of fairy shrimp rapidly develop into adults

whose populations disappear long before the vernal pools dry up. Amphibians, dytiscid beetle larvae, caddis fly larvae, and waterfowl are the chief predators of fairy shrimp (Pennak 1989). While waterfowl consume adults; this action may play an important role in dispersal of fairy shrimp since viable eggs can pass through waterfowl digestive tracts and be deposited elsewhere.

Two vernal pools exist on the Vista Oaks project site (Harvey, August 2003, p.8). The pools are variously reported as occupying 0.003 to 0.01 acres. The August 2003 Harvey report states that the pools are extremely small and shallow depressions that appear to hold standing water (necessary for breeding of vernal pool fairy shrimp) for only short periods of time during rain events. The grassland area in which the pools are located contained highly saturated soils at the time of the reconnaissance surveys. Nevertheless, the maximum water depth noted for these pools during the wet spring of 2003 was only approximately 2-4 inches. While the sustained period over which the pools held water was not determined, upland vegetative species growing within them indicates that they are subject to regular drying, even over periods of fairly high rainfall, a situation that was observed during the spring of 2003. Because of the size and the hydrologic characteristics of the pools, the Harvey report concludes that a low likelihood exists that fairy shrimp breed on site. However, protocol-level crustacean surveys appear not to have been conducted, and a small possibility exists that the species could occur on the site.

The Highlands Parcel A site has been documented as containing 0.36 acres of wetlands and 1.14 acres of other waters, including 0.18 acres of seasonal wetlands which have been identified as being potential habitat for vernal pool crustaceans (ECORP, July 2002, p.8). As with the Vista Oaks site, protocol-level crustacean surveys appear not to have been conducted for the project site, and an exact vernal pool acreage has not been assessed for the site. Because an evaluation of vernal pool habitat is not available at this time, a conservative approach would be to assume that the possibility exists that this species could be present on the Highlands Parcel A project site.

Vernal Pool Tadpole Shrimp (*Lepidurus packardi*). Federal listing status: Endangered; State listing status: None. Vernal pool tadpole shrimp are a member of the aquatic crustacean order Notostraca. Adults possess 35 pairs of legs and two long cercopods, and may reach a length of two inches. The vernal pool tadpole shrimp species is endemic to ephemeral fresh water vernal pools throughout the Central Valley, but their current distribution is restricted to vernal pool habitats in 18 populations within the valley. These populations occur in the north, east of Shasta County south to the San Luis National Wildlife Refuge in Merced County, and from a single vernal pool complex located on the San Francisco Bay National Wildlife Refuge in Alameda County (USFWS 1994). The vernal pool tadpole shrimp is in danger of extinction principally as the result of flood control, highway, and utility projects, urban development, conversion of

native habitats to agriculture, and stochastic events by virtue of the small isolated nature of many of the remaining populations (USFWS 1994).

The shrimp play an important role in the community ecology of vernal pools and are themselves ecologically dependent on seasonal fluctuations in this habitat. The vernal pool tadpole shrimp omnivorous diet contributes to the importance of their ecological role within vernal pool communities. Vernal pool tadpole shrimp consume detritus, earthworms, mollusks, dead tadpoles, frog eggs, fairy shrimp, and a variety of other invertebrates and microorganisms (Pennak 1989, USFWS 1994). Important factors influencing their prevalence and persistence within pools include: the absence or presence of water during specific times of the year, the duration the water persists, and water chemistry, which includes salinity levels, conductivity, amount of dissolved solids, and pH (USFWS 1994). The vernal pool tadpole shrimp matures slowly and is long lived, so the adults are often present and reproductive until the pools dry up in spring.

Female tadpole shrimp produce up to six clutches of eggs per season, yielding more than 800 eggs in all, which are deposited on vegetation at the bottom of the pool. A portion of the eggs will hatch immediately while the rest enter diapause (dormancy). Like fairy shrimp, the population survives through the dry summer months as diapaused eggs in the pool sediment. Some of these eggs will hatch when the pool fills with water in subsequent seasons, while the remaining eggs remain in the sediment (USFWS 1994). Eggs contained within the sediment at any given point can represent eggs deposited from several breeding seasons. The USFWS has developed standard survey protocols for wet and dry seasons to determine the presence or absence of this species in vernal pool habitats.

Amphibians, dytiscid beetle larvae, caddis fly larvae, and waterfowl are the chief predators of tadpole shrimp (Pennak 1989). The ability of the vernal pool tadpole shrimp species to withstand disturbance most likely depends on the specific circumstances such as the nature and the intensity of the disturbance, and the amount of the original egg bank destroyed. While waterfowl consume adults, this action may play an important role in dispersal of tadpole shrimp because viable eggs can pass through waterfowl digestive tracts and be deposited elsewhere.

The Harvey report (August 2003) states that the small size, extremely shallow depth, and hydrologic characteristics of the wetlands on the Vista Oaks project sites make the site generally incompatible for the vernal pool tadpole shrimp species, as the pools and other wet areas do not hold water for a long enough period to sustain this species. However, as noted above, at this writing (May 2005) protocol-level surveys for vernal pool crustaceans appear not to have been conducted on either project site, and therefore, a conservative approach would be to assume a low potential for occurrence of this species on the project sites.

Fish

Chinook Salmon (*Oncorhynchus tshawytscha*). Federal Status: Candidate; State Status: Species of Special Concern. Chinook salmon are anadromous, meaning they spend most of their lives in the ocean and return to their natal freshwater streams to spawn. Fall-run Chinook salmon are known to be seasonally present in Secret Ravine Creek.

Adult fall-run Chinook salmon migrate into the Dry Creek watershed from September through December and spawn from early October through late December. Although the timing of runs varies from stream to stream, peak spawning occurs in October and November. Egg incubation occurs from October through March, and juvenile rearing and smolt emigration occurs from January to June. Although the majority of young Chinook salmon migrate to the ocean during the first few months following emergence, a small number may remain in freshwater and migrate as yearlings. Chinook salmon mature at 3-4 years of age, although sexually mature 2 year-old males (“jacks”) are common.

The optimal temperature for Chinook salmon spawning is generally 52°F with lower and upper threshold temperatures of 42°F and 56°F, respectively. Temperatures outside these ranges result in reduced viability of eggs or heavy mortality of developing juveniles. Adult salmon waiting to spawn prefer water temperatures less than 60°F, although acceptable temperatures for upstream migration range from 57 to 67°F. Chinook salmon die after spawning. Eggs usually hatch in 40-60 days, and the young “sac fry” usually remain in the gravel for an additional 4-6 weeks until the yolk sac is completely absorbed.

Steelhead Trout (*Oncorhynchus mykiss irideus*). Federal listing status: Threatened; State listing status: Species of Special Concern. The steelhead trout is an anadromous form of rainbow trout (i.e., it migrates upstream from the ocean/bay to spawn). Young steelhead usually remain in freshwater streams one to two years before migrating to the ocean. Steelhead trout typically grow rapidly for one to two years in the ocean before returning to freshwater streams to spawn. Steelhead do not necessarily die after spawning as salmon do, and they may survive to spawn two or three seasons. Steelhead trout are generally found in clear, cool perennial sections of relatively undisturbed streams. Preferred streams typically support dense canopy cover but are usually free of rooted or aquatic vegetation. Gravel substrates are the optimum spawning habitat for these trout. Steelhead usually cannot survive long in pools or streams with water temperatures above 70°F for juveniles and adults, and above 58°F for developing embryos.

According to the Dry Creek Conservancy Spawners surveys, data concludes that the Dry Creek Watershed area from Roseville Parkway to Rocklin Road is one of the most productive spawning areas for Steelhead Trout. It should be noted that this stretch of Dry Creek includes the Vista Oaks and Highlands Parcel A project sites. In addition, since the 1960s, California Department of Fish and Game has identified Secret Ravine as the most productive spawning area in the Dry Creek

Watershed. Although steelhead are known to productively spawn in Secret Ravine Creek during the fall, the stretch of the creek within the Vista Oaks and Highlands Parcel A site boundaries has been impacted by sediment pollution and warm-water fishes. Therefore, steelhead trout are expected to occur within the project area and, according to the surveys conducted by the Dry Creek Conservancy, may spawn within the vicinity of the project site. Additionally, this species may use Secret Ravine Creek as a migration corridor.

Amphibians

California Red-legged Frog (*Rana aurora draytonii*). Federal listing status: Threatened; State listing status: Species of Special Concern. California red-legged frog is endemic to California and Baja California, Mexico. This species utilizes a variety of habitats, including various aquatic, riparian, and upland habitats below 5,200 feet. During periods of wet weather, red-legged frog moves through upland habitats, and during dry weather this species rarely occurs far from water. Deep (greater than two feet), still, or slow-moving water and dense, shrubby riparian or emergent vegetation is necessary for the deposition of eggs. The breeding season occurs from November through April. This species is considered to be extinct in Placer County, and therefore no potential exists for the occurrence of California red-legged frog on the project sites.

Foothill Yellow-legged Frog (*Rana boylei*). Federal listing status: None; State listing status: Species of Special Concern. The foothill yellow-legged frog is a moderate-sized frog that is highly variable in color (usually gray, brown, green, or yellow with a mottled appearance). The undersurfaces of the legs and lower belly are yellow or orange-yellow in the largest individuals. The range of this species was historically known to occur in most Pacific drainages from Marion County in Oregon to Los Angeles County in California. Yellow-legged frog habitat includes stream cobbles and boulders where females can deposit masses of eggs on the downstream side, allowing a gentle flow of water over the eggs. The streams where the yellow-legged frog species occurs are generally shallow, small to medium-sized streams, but the frogs are infrequent or absent in habitat where introduced aquatic predators such as bullfrogs occur. Yellow-legged frogs are considered to have a low occurrence within the project vicinity.

Western Spadefoot Toad (*Scaphiopus hammondi*). Federal listing status: None; State listing status: Species of Special Concern. Western spadefoot toad is a federal and State Species of Concern occurring throughout the Central Valley and adjacent foothills, and is usually quite common where it occurs. This species occurs primarily in grassland situations, but occasional populations also occur in orchard-vineyard habitats (Zeiner, 1988). Western spadefoot are dusky green or gray with four irregular, light-colored stripes on the back, and whitish below without markings. A wedge-shaped, glossy black spade exists on each hind foot (Stebbins, 1985).

Western spadefoot toads are rarely found on the ground surface. They spend most of the year in underground burrows up to 36 inches deep, which they construct themselves or from mammal burrows (Zeiner, 1988). This species relies on rainfall for formation and maintenance of breeding ponds. Most surface movements by adults are associated with rains or high humidity at night. During dry periods, the moist soil inside burrows provides water for absorption through the skin. The first fall rains usually trigger the adults to emerge from underground burrows, and subsequently, breeding and egg laying normally occur in nearby ponds from late winter to the end of March. Undisturbed grasslands with shallow temporary pools are optimal habitats for the western spadefoot toad (Zeiner, 1988).

The western spadefoot toad is known to occur within three miles of the project sites (CNDDDB, 2004). The seasonal wetlands on-site could be suitable breeding habitat for western spadefoot toad. Consequently, the western spadefoot toad has a moderate potential to occur on-site.

Reptiles

California Horned Lizard (*Phrynosoma coronatum frontale*). Federal listing status: None; State listing status: Species of Special Concern. California horned lizards occupy loose sandy loam and alkaline soils in a variety of habitats including chaparral, grasslands, saltbush scrub, coastal scrub, and clearings in riparian woodlands. The horned lizard primarily eats insects such as ants and beetles. The horned lizard once inhabited much of the Central Valley, but has disappeared from much of their former range. The population decline is mainly attributed to conversion of land for agricultural purposes. The human introduction of non-native Argentine ants, which are inedible to horned lizards and tend to displace the native carpenter ants, is another factor in their decline.

The sandy floodplain along Secret Ravine Creek provides suitable habitat for the California Horned Lizard. Although the California horned lizards are considered to be moderately likely to occur within the project area, prior surveys of the project sites did not identify this species. In addition, the CNDDDB's closest occurrence of the California horned lizard does not fall within the vicinity of the project site. Furthermore, the California horned lizard is not transitory, thus no further surveys would be required.

Western Pond Turtle (*Clemmys marmorata*). Federal listing status: None; State listing status: Species of Special Concern. The western pond turtle is a medium-sized brown or olive-colored aquatic turtle, and is found west of the Sierra Nevada crest and deserts and south to northern Baja California. Pond turtles are normally found in and along riparian areas, although gravid females have been reported up to a mile away from water in search of appropriate nest sites. The preferred habitat for these turtles includes ponds or slow-moving water with numerous basking sites (logs, rocks, etc.), food sources (plants, aquatic

invertebrates, and carrion), and few predators (raccoons, introduced fishes, and bullfrogs). Juvenile and adult turtles are commonly seen basking in the sun at appropriate sites, although they are extremely wary animals and often dive into the water at any perception of danger. Pond turtles have been commonly observed moving long distances to reach isolated stock ponds and other aquatic habitats. During the summer, they may estivate in leaf duff, well away from riparian areas.

Adult pond turtles breed in the spring and early summer (March - July). Typically, the female excavates a nest in hard-packed clay soil in open habitats (usually on south-facing slopes) within a few hundred yards of a watercourse; however, nests have been located up to 0.4 miles from water. The female then lays from 1 to 15 eggs, which are left to incubate for three to four months. The young turtles either leave the nest shortly after hatching or overwinter in the nest until the late winter rains. Young hatchlings are quite small (quarter-sized) and feed largely on aquatic invertebrates in shallow, moss-covered waters. Pond turtles reach sexual maturity at about four to eight years of age, and are also relatively long-lived and may reach 50 or more years of age in the wild. Pond turtles have disappeared from a significant portion of their range due to habitat loss from agriculture, urbanization, water development projects, and the introduction of non-native aquatic predators (i.e. fishes and bullfrogs).

Secret Ravine Creek and the adjacent riparian woodland provide suitable habitat for the western pond turtle. In addition, the nearest known occurrence of this turtle is within three miles of the project site. Thus, pond turtles are considered to be moderately likely to occur within the Secret Ravine Creek portion of the project area.

Birds

Bald Eagle (*Haliaeetus leucocephalus*). Federal listing status: Threatened; State listing status: Endangered, Fully Protected. Bald eagle typically uses large, old growth trees or snags in remote, mixed stands near large bodies of water, but this species also perches on large rocks and can occur in a variety of habitats with permanent water sources. Bald eagle consumes a variety of fish, small mammals, water birds, and carrion. Hunting typically involves swooping onto prey from a perch or from soaring flight. Nests of sticks are built in tall trees (often largest tree in stand with some shading), typically 50 to 200 feet above the ground. Nesting typically involves stands with 40 percent or less canopy. Platform stick nests are built in a variety of tree species just below tree crown. Peak breeding activity occurs March through June, although the breeding season extends from February through July. Breeding habitat does not exist on the project sites, and bald eagle is considered to have a low potential for occurrence on the sites.

Burrowing Owl (*Athene cunicularia*). Federal listing status: None; State listing status: Species of Special Concern. The burrowing owl is a small, terrestrial owl of open country. Burrowing owls favor flat, open grassland or gentle slopes and

sparse shrubland ecosystems. Burrowing owls prefer annual and perennial grasslands, typically with sparse, or nonexistent, tree or shrub canopies. In California, burrowing owls are found in close association with California ground squirrels. Owls use ground squirrel burrows for shelter and nesting. Ground squirrels provide nesting and refuge burrows, and maintain areas of short vegetation height, which provide foraging habitat and allow for visual detection of avian predators by burrowing owls. In the absence of ground squirrel populations, habitats soon become unsuitable for occupancy by owls. Burrowing owls are semi-colonial nesters, and group size is one of the most significant factors contributing to site constancy by breeding burrowing owls. The nesting season, as recognized by the California Department of Fish and Game, runs from February 1 through August 31.

Burrowing owls are unlikely to occur on the project sites south of Secret Ravine Creek due to the high levels of disturbance by off-road vehicles in the blue oak woodlands and floodplain, the mesic nature of the grasslands, and the presence of soils unfavorable for burrowing. The project area lying north of Secret Ravine Creek on the Vista Oaks site contains soils more favorable to burrowing and appears to be subject to fewer disturbances from off-road vehicles. However, ground squirrels were not observed, and only one burrow was observed during reconnaissance surveys. The nearest recorded owl occurrence is over five miles from the site (CNDDDB 2003). Thus, the potential for occurrence of burrowing owls on the project sites is considered low.

Cooper's Hawk (*Accipiter cooperii*). Federal listing status: None; State listing status; Species of Special Concern. The Cooper's hawk is a larger accipiter than the Sharp-shinned hawk and thus, this species can prey upon medium-sized birds (e.g., jays, doves, and quail) and occasionally takes small mammals and reptiles. The Cooper's hawk prefers landscapes where wooded areas occur in patches and groves, which facilitates the ambush hunting tactics employed by this species. Breeding pairs in California prefer nest sites within dense stands of live oak woodland or riparian areas and prey heavily on young birds during the nesting season.

An individual Cooper's hawk was observed within the project area during a visit to the Vista Oaks site in September 2002. The relatively large areas of oak and riparian woodland nesting habitat interspersed with ample foraging habitat throughout the two project sites constitutes good quality habitat for the hawks, which are highly likely to occur on the sites.

Ferruginous Hawk (*Buteo regalis*). Federal listing status: None; State listing status; Species of Special Concern. The ferruginous hawk is a winter resident and migrant of California. In the winter this species can be found throughout California, with the exception of the extreme northeastern and northwestern regions (Zeiner, 1990a). Ferruginous hawks migrate to California in August or September and return to their breeding grounds in late February or early March.

This species occurs in open habitats, including grasslands, shrub steppes, sagebrush, deserts, saltbush-greasewood shrublands, and the outer edges of pinyon pine and other forest. Ferruginous hawks forage for prey (rabbits [*Lepus* spp.], ground squirrels [*Spermophilus* spp.], and mice [*Peromyscus* spp.]) by low flights over open, treeless areas, and glide to intercept prey on the ground. This species has a low potential to occur on the two project sites.

Golden Eagle (*Aquila chrysaetos*). Federal listing status: None; State listing status: Species of Special Concern, Fully Protected. Golden eagle typically inhabits rolling foothills, mountain areas, sage-juniper flats, cliffs and rock outcrops and deserts. Of necessity for hunting is open terrain, provided by grasslands, deserts, savannahs and early successional forests. Cliffs and large trees are required for nesting. Major food sources include lagomorphs (rabbits and hares) and rodents, as well as lesser amounts of mammals, birds, reptiles and carrion. Golden eagle has been known to take calves and lambs. Typical hunting methodology consists of high elevation soaring (100 to 300 feet) or low, sweeping gliding. Less common approaches include locating prey from a perch or pirating from other predators. The breeding season is late January through August with peak activity occurring between March and July. Nesting habitat does not exist on the project sites, and golden eagle is considered to have a low potential for occurrence on the sites.

Loggerhead Shrike (*Lanius ludovicianus*). Federal listing status: None; State listing status: Species of Special Concern. The loggerhead shrike is a predatory songbird which inhabits much of the lower 48 states. Loggerhead shrikes prefer open habitats interspersed with shrubs, trees, poles, fences or other perches from which they can hunt. Loggerhead shrike populations have declined significantly over the last 20 years. Even with this trend, loggerhead shrikes are still considered a fairly common species in California. Loggerhead shrikes are primarily monogamous and are very territorial throughout the year. Nests are built in densely vegetated shrubs or trees, often containing thorns, which offer protection from predators and upon which prey species are impaled. Loggerhead shrikes breed between early February and late March, with the peak of breeding between mid-March and late June.

The combination of riparian woodland and adjacent grassland constitutes high quality habitat for breeding and foraging loggerhead shrikes, which are considered highly likely to be found in the project vicinity.

Long-billed Curlew (*Numenius americanus*). Federal listing status: None; State listing status: Species of Special Concern. This species is the largest sandpiper and the largest shorebird in North America. Long-billed curlews breed in grasslands and dry open prairies in the western United States and southern Canada. Wintering curlews are present on coastal mudflats in western North and Central America, as well as inland grassland and agricultural habitats such as those found in the Central Valley of California. The nest is a scrape in the ground

lined with grass, weeds and plant stems, and the clutch size is about four eggs. After the chicks hatch, the adults lead them to areas of denser grass, where they feed mostly on grasshoppers. This species is considered to have a low potential for occurrence on the project sites as a winter migrant.

Long-eared Owl (*Asio otus*). Federal listing status: None; State listing status: Species of Special Concern. Long-eared owl is an uncommon resident or winter visitor in northern California. Riparian or other thickets with small, densely canopied trees are required for roosting and nesting. Conifer stands at higher elevations also provide suitable habitat. Open areas are preferred hunting grounds, although some hunting in forested habitats occurs. This species searches for prey in low, gliding flight. Voles are the primary prey, with lesser amounts of other rodents, birds and other vertebrates. Long-eared owl uses abandoned crow, magpie, hawk, heron and squirrel nests, and rarely nests on the ground or in a cavity. The breeding period extends from early March to late July. This species is considered to have a low potential for occurrence on the project sites.

Merlin (*Falco columbarius*). Federal listing status: None; State listing status: Species of Special Concern. Merlin is an uncommon winter resident, inhabiting coastlines, open grasslands, savannahs, woodlands, lakes, wetlands, edges and early successional stages; merlin rarely makes use of heavily wooded areas or open deserts. The primary food source of merlin is small birds, although small mammals and insects are also exploited. Hunting consists of low-flying searches with short dashes or dives. Prey is captured in the air or on the ground. This species does not breed in California. This species is considered to have a moderate potential for occurrence on the project sites as a winter migrant.

Northern Harrier (*Circus cyaneus*). Federal Status: None; State Status: Species of Special Concern. The northern harrier is commonly found in open grasslands, agricultural areas, and marshes. Nests are built on the ground in areas where long grasses or marsh plants provide cover and protection. Harriers hunt for a variety of prey, including rodents, birds, frogs, reptiles, and insects by flying low and slow in a traversing manner utilizing both sight and sound to detect prey items. Northern harriers are common in the Central Valley, especially during winter.

The grasslands and wetlands on the project sites provide suitable nesting and foraging habitat for northern harriers, one individual of which was observed in the grasslands just east of the project boundary during reconnaissance surveys in February 2002. Harriers are considered highly likely to occur within the project area.

Peregrine Falcon (*Falco peregrinus*). Federal listing status: Delisted Taxon/Recovered/Being Monitored; State listing status: Fully Protected. Typical habitat for peregrine falcon includes bodies of water in open areas with cliffs and canyons nearby for cover and nesting. A variety of vegetative communities that possess the necessary water sources provide suitable habitat for this species.

Peregrine falcon preys mostly on birds in flight. Nests are scrapes on depressions or ledges in open areas; man-made structures are often used, and abandoned raptor nests and tree cavities are occasionally used. Peregrine falcons breed near wetlands, lakes, rivers or other water sources on high cliffs banks, dunes and mounds. The breeding season extends from March to late August. This species is considered to have a low potential for occurrence on the project sites.

Prairie Falcon (*Falco mexicanus*). Federal listing status: None; State listing status: Species of Special Concern. Prairie falcon inhabits open mountains, dry plains and prairies. This species require cliffs and rock promontories and earthen mounds for nesting within ¼ mile of water. Prairie falcon occurs in northern California during winter only and are entirely absent during the summer. Prairie falcon feeds on small mammals, birds, and reptiles. Prairie falcon numbers are declining due to rodent-poisoning programs and nest-robbing by falconers. This species is considered to have a low potential for occurrence on the project sites as a winter migrant.

Sharp-shinned Hawk (*Accipiter striatus*). Federal listing status: None; State listing status; Species of Special Concern. This species is the least common breeding *Accipiter* in California. Woodland or forested habitats are the preferred nesting and cover environment of sharp-shinned hawk. A water source is usually within 300 feet of the nest. Small birds are the primary prey of sharp-shinned hawk, but small mammals, reptiles, insects, and amphibians are also consumed. Hunting consists of sudden flight from perch sites, although the low, sweeping flight of the harrier is also utilized. Openings at the edges of woodlands, hedgerows, brushy pastures and shorelines are preferred hunting habitats. Nests are usually built in dense pole and small tree stands of conifers that are cool, moist and well shaded. Nests are typically built in dense foliage against the trunk or in the crotch of a large branch, and are the most inconspicuous of all *Accipiter* nests. The breeding period is April through August with peak activity in late May and June. Sharp-shinned hawk is considered to have a moderate potential for occurrence on the project sites as a winter visitor/migrant.

Short-eared Owl (*Asio flammeus*). Federal listing status: None; State listing status: Species of Special Concern. The short-eared owl occurs on all continents except Australia and Antarctica. In North America, it breeds from Alaska and continental Canada south to central California, and east to Maryland. This species occupies broad expanses of open habitat with dense, low vegetation, including prairies, grasslands, meadows, and marshes. The short-eared owl is strongly associated with undisturbed native grasslands and wetlands that support dense small mammal populations. The meadow vole comprises 90 percent of the diet of the short-eared owl. Short-eared owl is considered to have a low potential for occurrence on the project sites, as a winter migrant.

Southwestern Willow Flycatcher (*Empidonax traillii extimus*). Federal listing status: Endangered; State listing status: Endangered. This species breeds in dense

riparian habitats along rivers, streams, or other wetlands frequently where the vegetation is dominated by dense growths of willows (*Salix* spp.) or other shrubs and medium-sized trees. In some cases, willow flycatcher habitat may include an overstory of cottonwood (*Populus* spp.) or other large trees. Loss of nesting habitat and brown-headed cowbird (*Molothrus ater*) parasitism of their nests have been factors in the decline of this species. Southwestern willow flycatcher is considered to have a low potential for occurrence on the project sites as a fall migrant.

Swainson's Hawk (*Buteo swainsoni*). Federal Status: None; State Status: Threatened. Swainson's hawk is a large soaring bird of open habitats. This species has a wingspan of approximately four feet, and as in most birds of prey, the female is slightly larger than the male. The coloration is highly variable from light to rufous to entirely dark birds. Swainson's hawk is most easily distinguished from other members of its genus, such as the familiar red-tailed hawk (*B. jamaicensis*), by a more slender body and narrow, pointed, and slightly upturned wings.

Swainson's hawks were once one of the most common birds of prey in the grasslands of California. Swainson's hawk populations have declined at least 90 percent since 1990, and are still believed to be declining (Thelander 1994). Swainson's hawks once nested in the majority of the lowland areas in the State. Currently the nesting range is primarily restricted to portions of the Sacramento and San Joaquin Valleys and northeast California (Bloom 1980). Swainson's hawk was listed as Threatened by the State of California in 1983.

Swainson's hawks require large amounts of foraging habitat, preferably grassland or pasture habitats. Swainson's hawks preferred prey includes voles (*Microtus* sp.), gophers, birds, and insects such as grasshoppers (Estep 1989). Swainson's hawks have also adapted to some croplands, particularly alfalfa, but also hay, grain, tomatoes, beets and other row crops (Estep 1989). Crops such as cotton, corn, rice, orchards, and vineyards are not suitable because they either lack suitable prey or the prey is unavailable to the Swainson's hawks due to the crops structure.

In the Central Valley, Swainson's hawks are generally tied to riparian habitat for nesting sites (Bloom 1980). A few pairs nesting in Tulare and Kings County have utilized eucalyptus trees and nested outside riparian areas (CNDDDB 2003).

The riparian and oak woodlands on the project sites provide suitable nesting habitat for the Swainson's hawk species, however the non-native grasslands on site are not a favored forage type and provide only marginal foraging habitat, thus reducing the likelihood of Swainson's hawks nesting in the project area. The nearest recorded occurrence of a nesting Swainson's hawk occurred in 1996, approximately 5.5 miles west of the project site (CNDDDB 2003). The potential for occurrence of this species on the project sites is considered moderate.

Tricolored Blackbird (*Agelaius tricolor*). Federal status: Species of Concern; State listing status: Species of Special Concern. Individuals of this species closely resemble the more common red-winged blackbird, but are genetically, behaviorally, and morphologically distinct. Tricolored blackbirds breed in dense colonies throughout the Central Valley and some coastal regions of California. Colonies may contain huge numbers of nests (sometimes more than 100,000), densely arrayed (up to 6 nests per square meter). Tricolored blackbirds forage and roost in large flocks in winter, feeding on a variety of insects, other invertebrates, and grain. Research suggests that population numbers have declined dramatically in response to habitat loss due to conversion of wetlands to agricultural uses. Suitable nesting habitat for the tricolored blackbird does not exist on the project sites; therefore, no potential exists for the occurrence of nesting colonies of this species on the sites.

Vaux's Swift (*Chaetura vauxi*). Federal listing status: None; State listing status: Species of Special Concern. Vaux's swift roosts in hollow trees and snags, and occasionally in chimneys and buildings, often in large flocks. Nests are commonly built at the bottom of a cavity, regardless of the location of the entrance. The breeding period is from early May to mid-August. The incubation period is approximately 19 days. Young leave the nest on approximately Day 28. Considerable mortality is a result of heavy parasitism by lice. Vaux's swift has a preference for foraging over rivers and lakes. The exclusive diet of Vaux's swift is flying insects, taken in long, continuous foraging flights over most habitats, including burns, forest clearings and rivers. This species winters in Mexico and Central America. Vaux's swift is considered to have a low potential for occurrence on the project sites, as a migrant.

White-tailed Kite (*Elanus leucurus*). Federal Status: None; State Status: Fully Protected Species. The white-tailed kite species prefers habitats with low ground cover and variable tree growth. Kite nests are built near the tops of oaks, willows, or other dense broad-leaved deciduous trees in partially cleared or cultivated fields, grassy foothills, marsh, riparian, woodland, and savannah. Kites prey primarily on small rodents (especially the California vole), but also feed on birds, insects, reptiles, and amphibians. Once considered endangered, the white-tailed kite is now fairly common.

The project sites contain suitable white-tailed kite nesting habitat (riparian and blue-oak woodlands) in close proximity to a relatively large area of grassland foraging habitat. In addition, a white-tailed kite was observed foraging in the non-native grasslands just east of the Vista Oaks project boundary during reconnaissance surveys in February 2003.

Yellow-breasted Chat (*Icteria virens*). Federal listing status: None; State listing status: Species of Special Concern. The yellow-breasted chat favors dense riparian thickets for nesting (Grinnell and Miller 1944). The yellow-breasted chat diet consists of insects, spiders, berries, and fruits gleaned from the foliage of

shrubs and low trees. Loss of nesting habitat and brown-headed cowbird (*Molothrus ater*) parasitism of their nests has caused a decline in Central Valley populations.

The riparian thickets along Secret Ravine Creek provide potential foraging and nesting habitat for the yellow-breasted chat, which is considered to be moderately likely to occur in the project area.

Mammals

California Mastiff Bat (*Eumops perotis californicus*). Federal listing status: None; State listing status: Species of Special Concern. This nocturnal species is an uncommon resident in southeastern San Joaquin Valley and Coastal Ranges from Monterey County southward through southern California, from the coast eastward to the Colorado Desert. The California mastiff bat occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, annual and perennial grasslands, palm oases, chaparral, desert scrub, and urban areas, catching and feeding on insects in flight. Crevices in cliff faces, high buildings, trees, and tunnels are required for roosting; suitable habitat consists of extensive open areas with abundant roost locations. While roosting habitat for the California mastiff bat is not present on the project sites, the species may be present on the sites as a forager. Therefore, the potential for occurrence is considered moderate.

Pallid Bat (*Antrozous pallidus*). Federal listing status: None; State listing status: Species of Special Concern. The pallid bat is a medium-sized bat which occurs throughout much of California. The pallid bat is usually found in open lowlands where it preys upon flightless insects. The pallid bat prefers roosting in caves and mine tunnels but buildings and trees may also be used. Pallid bats are pale to light brown in color, and, at about 24 grams, the Pacific race is one of the State's largest bats. Colonies can range from a few individuals to over a hundred and are non-migratory (Barbour and Davis 1969). Some female/young colonies (typically the coastal subspecies) use their day roost for their nursery as well as hibernacula, while other colonies (typically those in the desert) migrate locally on a seasonal basis (Johnston 1997). Although crevices are important for day roosts, night roosts often include open buildings, porches, garages, highway bridges, and mines. Pallid bats may travel up to several miles for water or foraging sites if roosting sites are limited. The pallid bat prefers foraging on terrestrial arthropods in dry open grasslands near water and rocky outcroppings or old structures. The pallid bat may also occur in oak woodlands and at the edge of redwood forests along the coast. Pallid bats are sensitive to human disturbances at roost sites. Maternity colonies of the pallid bat species are now uncommon and sparse in the San Joaquin Valley.

Suitable foraging habitat for the pallid bat occurs throughout the project sites, and the snags and cavities present in the blue oak woodlands provide potential roost

sites. Although pallid bats were not observed during reconnaissance surveys, this species is considered moderately likely to forage and breed in the project area.

REGULATORY CONTEXT

Federal

Federal Endangered Species Act

Provisions of the federal Endangered Species Act (FESA), as amended (16 USC 1531) protect federally listed threatened and endangered species and their habitats from unlawful take. “Take” under FESA includes activities such as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” The U.S. Fish and Wildlife Service’s (USFWS) regulations define harm to include some types of “significant habitat modification or degradation.” The U.S. Supreme Court ruled on June 29, 1995, that “harm” may include habitat modification “...where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.”

U. S. Army Corps of Engineers: Waters of the United States

Areas meeting the regulatory definition of “Waters of the United States” are subject to the regulatory jurisdiction of the U.S. Army Corps of Engineers (ACOE). The ACOE, under provisions of Section 404 of the Clean Water Act (1972), has jurisdiction over “Waters of the United States” (jurisdictional waters). These waters may include all waters used, or potentially used, for interstate commerce, including all waters subject to the ebb and flow of the tide, all interstate waters, all other waters (intrastate lakes, rivers, streams, mudflats, sand flats, playa lakes, natural ponds, etc.), all impoundments of waters otherwise defined as “Waters of the U. S.,” tributaries of waters otherwise defined as “Waters of the U. S.,” the territorial seas, and wetlands adjacent to “Waters of the U.S.” (33 CFR, Part 328, Section 328.3).

Construction activities within jurisdictional waters are regulated by the ACOE. The placement of fill material into such waters must be in compliance with permit requirements of the ACOE. ACOE permits are not effective in the absence of State water quality certification pursuant to Section 401 of the Clean Water Act. The State Water Resources Control Board is the State agency charged with implementing water quality certification in California.

Migratory Bird Treaty Act

Raptors (birds of prey), migratory birds, and other avian species are protected by a number of state and federal laws. The federal Migratory Bird Treaty Act (MBTA) prohibits the killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the Secretary of Interior. The State Fish and Game Code §3513 states that it is unlawful to take or possess any migratory nongame bird as designated in

the Migratory Bird Treaty Act or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the Migratory Bird Treaty Act.

State

California Endangered Species Act

Provisions of California's Endangered Species Act (Fish and Game Code of California, Chapter 1.5, Sections 2050-2116) protect State-listed threatened and endangered species. The CDFG regulates activities that may result in "take" of individuals. Take is defined as, "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill".

California Species of Special Concern

The CDFG has also produced three lists (amphibians and reptiles, birds, and mammals) of "species of special concern" that serve as "watch lists." Species on these lists either are of limited distribution or the extent of their habitats has been reduced substantially, such that threat to their populations may be imminent. Thus, their populations should be monitored. California Species of Special Concern may receive special attention during environmental review, but do not have statutory protection.

California State Fish and Game Code

Migratory birds are also protected in California. The State Fish and Game Code §3513 states that it is unlawful to take or possess any migratory nongame bird as designated in the Migratory Bird Treaty Act or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the Migratory Bird Treaty Act.

Raptors (*e.g.*, eagles, hawks, and owls) and their nests are protected under both federal and State regulations. In addition to the MBTA, birds of prey are specifically protected in California under State Fish and Game Code section 3503.5 (1992). Section 3503.5 states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Section 89 of the Fish and Game code defines "Take". "Take means hunt, pursue, capture, or kill, or attempt to hunt, pursue, catch, capture or kill."

California Department of Fish and Game: Streambed Alteration Agreement

California Department of Fish and Game (CDFG) jurisdiction generally extends to the "hinge points" on the top-of-bank of opposing channel banks and/or the full lateral extent of riparian vegetation beyond the top-of-bank. Definitions used in the identification of CDFG jurisdiction are contained in various documents including the Fish and Game Code, Title 14 of the California Code of Regulations (Hernandez 1999), and *A Field Guide to Lake and Streambed Alteration Agreements, Sections 1600-1607, California*

Fish and Game Code (1994a). The areas generally include rivers, streams, creeks, or lakes. In addition, canals, aqueducts, irrigation ditches, and other means of water conveyance can also be considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife.

The bed and banks of Secret Ravine Creek, including the aquatic habitat within Ordinary High Water Mark (OHWM), and the riparian woodland extending beyond its banks are potentially subject to the regulatory jurisdiction of the California Department of Fish and Game under Sections 1601-1603. The bed and bank areas measure approximately 1.85 acres, and 1.11 acres in size, respectively. A Streambed Alteration Agreement is required prior to any work within the bed and banks, and associated riparian woodland of Secret Ravine Creek.

Local

City of Rocklin General Plan

The 1991 City of Rocklin General Plan provides policies adopted by the City Council in order to help guide the direction of the City. The policies related to biological resources are as follows:

Open Space, Conservation and Recreation Element

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| Policy 1 | To encourage the protection of natural resource areas, scenic areas, hilltops, open space areas and parks from encroachment or destruction by incompatible development through the use of conservation easements, buffers, setbacks or other measures. Development shall be required to provide usable land areas outside of conversion easements or established natural resource buffers. |
| Policy 2 | To encourage the protection of wetlands, vernal pools, and rare, threatened and endangered species of both plants and animals through either avoidance of these resources or implementation of appropriate mitigation measures where avoidance is not feasible, as determined by the City of Rocklin. |
| Policy 4 | To encourage the protection of oak trees, including heritage oaks, and other significant vegetation from destruction. |
| Policy 15 | To provide adequate yard areas and building setbacks from creeks, riparian habitat, hilltops, and other natural resources. |
| Policy 16 | To encourage developments to incorporate resources such as creeks, steep hillsides, and quarries in private, but restricted, ownership. |
| Policy 17 | To consider acquisition and development of small areas along creeks at convenient safe locations for use by general public. |
| Policy 19 | To minimize the degradation of water quality through requiring implementation of techniques such as, but not limited to, the prohibition of grading, placement of fill or trash or alteration to vegetation within designated stream setback buffer areas, and requiring the installation of measures which minimize runoff waters containing pollutants and sediments from entering surface waters. Measures for minimizing pollutants and sediments from entering watercourses may include oil/grit separators, detention basins and flow reduction devices. |

Southeast Rocklin Circulation Element

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| Goal 4 | To minimize the disturbance to the Secret Ravine corridor and the related floodplain and riparian areas. |
| Policy 16 | Avoid construction in or adjacent to wildlife habitat areas where bird nesting occurs from late April through July. Implement policy number 23 if bird nesting is discovered. |
| Policy 17 | Except for creek crossings (see policy number 24), avoid construction within 100 feet of the edge of a stream, or natural riparian corridor, whichever is greater. Bridge structures can be allowed within the 100-foot distance if consistent with Policy 28. |
| Policy 18 | Obtain any required stream bed alteration permit from the California Department of Fish and Game. Replace any damaged riparian vegetation as recommended by the Department of Fish and Game. |
| Policy 19 | Design road improvements and new alignments to limit the number of creek crossings and minimize adverse impacts to existing wildlife habitats. |
| Policy 20 | Design and implement a siltation and erosion control program for creek crossing areas prior to construction. The City Engineer shall be responsible for carrying out this policy. The Public Works inspector shall monitor ongoing construction activities to assure compliance. |
| Policy 21 | Design road improvements and new alignments to protect and preserve vernal pool habitat consistent with Army Corps of Engineers requirements. |
| Policy 22 | Conduct a comprehensive inventory of the vegetative structure of the riparian corridor prior to specific siting of new alignments and creek crossings. This inventory will be used as a factor in the selection of an alignment which minimizes impacts to mature riparian vegetation, while still meeting the alignment or access and engineering requirements of siting the alignment or crossing. |
| Policy 23 | Conduct a spring raptor nest survey by a qualified biologist before a precise engineered alignment of the roadway is selected and before construction activities begin. If active raptor nests are located, especially those of any species of special concern {see Table 3.3-1 of the Draft EIR for the Rocklin Circulation Element Update – Southeast Rocklin Area, April 1988}, these areas should be avoided, and construction activity should be postponed until the young have fledged. |
| Policy 24 | The width of a creek crossing construction zone within the riparian corridor will be limited to a maximum of 100 feet. Construction outside of this corridor will be allowed only if design constraints require a zone greater than 100 feet and must be authorized by the City Engineer. |
| Policy 25 | Once the precise location of any creek crossing is determined, flag the construction zone the construction zone (corridor) to allow easy identification. Restrict use of heavy equipment to this designated corridor. |
| Policy 26 | Require a licensed arborist approved by the Community Development Director to perform necessary tree and root trimming during road and bridge construction. |
| Policy 27 | Use a free span bridge design whenever feasible, to minimize the fragmenting effects of any bridge crossing on riparian habitat. Final bridge design will be based on recommendations of the Department of Fish and Game to maximize freedom of movement of wildlife along the riparian corridor. Precast concrete bridge joists should be used, whenever possible, to avoid prolonged construction and reduce construction disturbances in riparian corridors. |
| Policy 28 | Construction work within the creek shall be confined to the time periods selected by the California Department of Fish and Game. Such work is generally confined to the period of July 1, through September 30 in order to minimize erosion and impacts on the October-November spawning run and April-May out-migration of Chinook salmon. Financial security shall be required to assure compliance with this policy. |

- Policy 29 Use coffer-dams (generally of geotextile material, sandbags, and culverts) or other measures as required by the Department of Fish and Game, to provide an adequate “dewatered” area for construction while minimizing impacts to the creek environment.
- Policy 30 Construction activity of creek crossings occurring in the dewater area shall employ construction methods as required by the Department of Fish and Game, including an initial layer (approximately 18 inches) of clean gravel, to allow for the clean removal of the creek obstruction at the conclusion of construction.
- Policy 31 Hydroseed areas adjacent to finished roadbeds that were disturbed during construction to promote revegetation and reduce erosion potential.
- Policy 32 Develop a revegetation plan (in consultation with DFG) which will compensate for riparian acreage eliminated by creek crossing construction. This plan will be implemented by a qualified revegetation contractor.
- Policy 33 Photograph streambed and bank contours prior to construction. These photographs are to be kept on file at the Rocklin Community Development Department. Following construction, restore creekbed and bank contours will be restored, as near as possible, to pre-project conditions.
- Policy 34 Set aside topsoil removed by grading prior to road construction for later use in revegetation and recontouring efforts.
- Policy 35 Develop and implement a plan, in consultation with the Department of Fish and Game, to remove instream obstacles to salmon and steelhead migration stream crossing areas.
- Policy 36 Develop a monitoring program to ensure the Southeast Rocklin Circulation Element policies are properly implemented and complied with. City monitoring will be conducted by the City Engineer, Community Development Director, and the City Public Works Field Inspector in consultation with a qualified biologist.
- Policy 37 Replace oak trees with a diameter of six (6) inches or more, which are removed as a result of road construction, in-kind, at a 2 : 1 (replaced : removed) ratio or greater, in areas adjacent to the roadway. Plantings are to be installed by a qualified landscape contractor using proven methods to protect saplings from depredation and facilitate survival. Size of new trees shall be specified by the City Council.
- Policy 38 Prior to final sites of new alignments, inventory all oak trees within 500 feet of the proposed road alignments. Trees greater than six inches in diameter at 4-1/2' from ground level will be identified, marked, and mapped. Healthy oak trees with greater than 100 inch circumference, measured four and one half feet above ground level will be identified as “heritage” oaks. The inventory will be used as a factor in the selection of alignments which minimize impacts to the more valued oak trees, while still meeting the engineering requirements of siting the alignment.
- Policy 41 Oak trees to be retained near the construction alignment of any road shall be fenced at the dripline of the tree to prevent access to this area by heavy equipment.
- Policy 44 Design angle of all crossings along Secret Ravine Creek to minimize riparian disturbances while maintaining proper and safe street design.
- Policy 37 Once a final road alignment is delineated, map and adequately flag a construction corridor (not to exceed 150 feet in width) to include the road. Heavy equipment operation will be restricted to this corridor.

City of Rocklin Oak Tree Ordinance

Oak Tree Preservation Guidelines

The goal of the Oak Tree Ordinance and Oak Tree Preservation Guidelines is to require protection and preservation for all oak trees located wholly or partially within the City as described below.

“Oak tree” is defined as an oak tree with a trunk diameter at breast height (TDBH) (four and one-half feet above the root crown) of six inches or more and of a species identified in the City of Rocklin Oak Tree Preservation Guidelines as native to the Rocklin area. The diameter of the multitrunked trees shall be the TDBH of the largest trunk only. Prior to removal of any native oak tree, the property owner must submit an application to the Rocklin Planning Department for an Oak Tree Removal permit. The application will provide the species, size and condition of the tree(s) proposed for removal. The applicant should provide a site plan indicating the location of the tree(s) proposed for removal and the proximity of the tree(s) to structures or other manmade improvements. Additionally, if deteriorating health of the tree is a factor for removal, the applicant may be required to provide a certified arborists report on the health of the tree(s). Any replacement tree, which dies within five years of being planted, must be replaced on a one-to-one basis. Mitigation will be required, and can either be by tree replacement or by payment into the City of Rocklin Oak Tree Preservation Fund.

The minimum size of any replacement tree for a development is 15 gallons. If the proposed number of trees to be removed on an undeveloped lot is more than 20 percent of the TDBH or more than 20 percent of the total number of all the surveyed trees, the total number of trees required to be replaced shall be of a 1 inch diameter at breast height, which is roughly equivalent to a 15-gallon tree. The City’s Tree Preservation Guidelines have established a formula for determining the total number of inches of TDBH of replacement trees required for removal of more that 20 percent of the TDBH or more than 20 percent of the total number of all surveyed trees. The City formula is as follows:

<u>Step 1:</u> TDBH of all Surveyed Trees on the Sites	X	20%	=	Discount Diameter
<u>Step 2:</u> TDBH of all Surveyed Trees on the Sites to be Removed	—	Discount Diameter	=	Total Number Inches of TDBH of Replacement Trees Required

IMPACTS AND MITIGATION MEASURES

Standards of Significance

For the purposes of this EIR, an impact would be considered significant if the implementation of the proposed project would, or potentially would do any of the following:

- Conflict with adopted environmental policies and goals of the community where the project is located, such as a tree preservation policy or ordinance;
- Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Conservation Community Plan, or other approved local, regional, or State habitat conservation plan;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species;
- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a threatened, endangered, or special status species in local or regional plans, policies, or regulations;
- Substantially reduce the habitat of a fish or wildlife species;
- Cause a fish or wildlife population to drop below self-sustaining levels;
- Threaten to eliminate a plant or animal community;
- Substantially reduce the number or restrict the range of an endangered, rare, or threatened species;
- Result in a long-term or short-term loss of a substantial number of mature, healthy oak trees;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations; or
- Have a substantial adverse effect on federally protected wetlands defined by Section 404 of the Clean Water Act.

Method of Analysis

Biotic Surveys

Reconnaissance-level field surveys were conducted from February to May 2003 on the Vista Oaks project site by H.T. Harvey & Associates. The purpose of the surveys was to document biotic resources associated with the project site that may pose constraints to future development. Specifically, surveys were conducted to: 1) describe existing biotic habitats; 2) assess the site for its potential to support special-status species and their habitats; and 3) identify potentially jurisdictional habitats, including Waters of the U.S., riparian habitat, and ordinance trees. Surveys were conducted by H.T. Harvey & Associates' wildlife biologists Ginger Bolen and Kent Smith, and by plant ecologist Kurt Flaig.

Plant communities were described in terms of dominant tree, shrub, and herbaceous vegetation composition and, wherever possible, classified according to the nomenclature of Holland (1986) and Sawyer and Keeler-Wolf (1995). Habitats were mapped with the aid of a non-rectified aerial photograph prepared by Andregg, Inc. on June 9, 2001 (scale: 1 inch = 100 feet).

A rare plant survey was conducted on April 19, 2002 by ECORP Consulting, Inc. During the plant survey, the Vista Oaks site was visually inspected for the presence of regionally

occurring special-status plant species. These species included Boggs Lake hedge-hyssop (*Gratiola heterosepala*), Slender Orcutt grass (*Orcuttia tenuis*), and Sacramento Orcutt grass (*Orcuttia viscida*). During the survey, ECORP consulting biologists walked the 112-acre site, recording all species encountered. The survey focused on the habits which were most likely to support populations of regionally occurring special-status plant species, such as wetland features. Plant species observed during the survey were identified with the aid of the *Jepson Manual of Higher Plants* (Hickman 1994).

A separate elderberry survey of the site was conducted on the Vista Oaks project site in May 2002 by ECORP biologists; however, the elderberry survey results were not included in the Rare Plant Survey report because the elderberry plant (*Sambucus mexicana*) has no special status. The elderberry is the sole host plant for the valley elderberry longhorn beetle, which is a federally listed (Threatened) species. A conservation area of approximately 3.2 acres has been created on the project site and consists of 337 elderberry plantings and 433 associated native plantings. In addition, 47 valley elderberry bushes were transplanted from the Highlands at Cavitt Ranch site to the conservation area.

A wetland delineation was conducted during 1994 for the Highlands Parcel A site and verified by the Corps in a letter dated November 10, 1994. The Corps verification expired on November 10, 1999. Reconnaissance-level field were conducted by ECORP Consulting, Inc. to determine the extent of waters of the U.S. as compared to the verified wetland delineation dated November 10, 1994.

As noted in the July 2002 *Biological Assessment for Crown Piece* (p.1) prepared by ECORP Consulting, Inc., ECORP biologists conducted several field surveys between 1992 and 2002 within the Highlands Parcel A site, focusing on special-status species, plants, and wildlife.

Additionally, a *Biotic and Wetland Assessment* was prepared by Sugnet and Associates in 1992 for the Highlands Parcel A site, for which a site survey was conducted. Elderberry shrubs were noted during the survey, and loggerhead shrike was seen foraging on the project site. Other special-status species were not observed during this 1992 assessment.

Finally, Foothill Associates conducted a peer review for the potential presence of special-status plant species on both project sites in May 2005. The peer review included a reconnaissance-level site assessment at the Vista Oaks property on May 17, 2005 in order to document major onsite habitat types and to assess the suitability of the site to support target special-status plant species. Due to site inaccessibility, Highlands Parcel A was reviewed only according to digital aerial photography dated 1993 and previously prepared biological reports.

Sources for Special-Status Plant and Wildlife Species Review

Information concerning threatened, endangered, or other special-status species that may occur in the project area was collected from several sources and reviewed by H. T.

Harvey & Associates biologists. The sources consulted included the California Department of Fish and Game (CDFG) Natural Diversity Data Base (CNDDB 2003), California Wildlife Habitat Relationships program (CDFG 2002), and miscellaneous information available through the U.S. Fish and Wildlife Service (USFWS), CDFG, and technical publications. *The Jepson Manual* (Hickman 1993) supplied information regarding the distribution and habitats of vascular plants in the vicinity.

Using CNDDB reports (CNDDB 2003), H.T. Harvey & Associates conducted a search of published accounts of these species for the *Rocklin, California* USGS Quadrangle map in which the project site occurs, and for the surrounding eight quadrangles: *Pilot Hill, Clarksville, Folsom, Citrus Heights, Roseville, Lincoln, Gold Hill, and Auburn*. In addition, all species listed as occurring in Placer County were reviewed.

For their rare plant report for the Vista Oaks property, ECORP Consulting, Inc. consulted the CNDDB prior to the field survey to determine nearby occurrences of special-status plant species. During the field survey, the *Jepson Manual of Higher Plants* (Hickman 1994) was consulted to help identify plant species.

Data regarding special-status plant and wildlife species on the Highlands Parcel A site were compiled by ECORP Consulting, Inc. through a query of the CNDDB and review of existing literature and ECORP files.

Additionally, for their May 2005 peer review for the potential presence of special-status plant species on both project sites, Foothill Associates reviewed project-related biological documentation, including the following: July 2002 *Biological Assessment for Crown Piece* prepared by ECORP Consulting; *Jurisdictional Delineation and Biological Resources Assessment, Vista Oaks, Rocklin, CA* by Gibson and Skordal dated December 1999; a species list from the USFWS to ECORP Consulting for the Vista Oaks property dated December 2001; a letter from ECORP Consulting to Terrance Lowell and Associates dated December 2001; a request for a wetland verification from ECORP Consulting to the Corps dated 2001; a wetland verification for the Vista Oaks property from the Corps to Terrance Lowell and Associates dated July 2002; the results of October 2002 rare plant surveys for the Vista Oaks property; a tree report entitled *Updated Tree Inventory and Impact Assessment for Vista Oaks, Rocklin* prepared by Sierra Nevada Arborists for Terrance Lowell and Associates dated July 2003; the biological resources section of the draft Environmental Impact Report prepared by H.T. Harvey and Associates for Raney Planning & Management dated August 2003; the results of a *Peer Review Conducted for the Highlands Parcel A Project in the City of Rocklin* prepared by Foothill Associates in November 2003; and a January 2005 letter from the Rocklin clarifying tree impact calculations.

Foothill Associates also reviewed local resource databases for updated species occurrence lists for the subject properties. An updated query of the CNDDB and CNPS online database was conducted for the following 7.5-minute USGS topographic quadrangles: Lincoln, Gold Hill, Auburn, Roseville, Rocklin, Pilot Hill, Citrus Heights, Folsom, and Clarksville. Plant species not known to occur in the project area due to lack of

appropriate soil conditions or other essential habitat conditions were omitted from the target species list.

Project-Specific Impacts and Mitigation Measures

4.6I-1 Impacts related to loss of non-native grassland and bare ground.

Vista Oaks

Annual grassland is dominated by non-native grasses and forbs. Annual grassland habitat supports a moderate diversity of wildlife species, providing foraging areas and cover for a variety of wildlife. Implementation of the proposed Vista Oaks project would result in the loss of approximately 31 acres of non-native annual grassland and bare ground habitats, including portions of grassland occurring in uplands on site and a portion of the grassland where the proposed public access trail and public open space would be located within the 100-year floodplain. The non-native annual grassland and bare ground on site are common regionally and offer limited floristic and wildlife value.

Highlands Parcel A

Development of the proposed Highlands Parcel A project would be expected to result in the loss of a maximum of approximately 7.3 acres of annual grassland on the site. The majority of the site (roughly 22.9 acres containing both grassland and other habitat types) would be preserved by the project applicant as open space. As noted above, the non-native annual grassland and bare ground habitat types are common in the Rocklin area and offer limited floristic and wildlife value.

Conclusion

Because the non-native annual grassland on the project sites are common regionally and offer limited floristic and wildlife value, the conversion of these habitats to urbanized uses would be a *less-than-significant* impact.

Mitigation Measure(s)

None required.

4.6I-2 Impacts to special-status animal species.

Special-status fish and wildlife species' habitat was evaluated for the Vista Oaks project site in the August 19, 2003 Biological Report, prepared by H.T. Harvey & Associates. Potential project-related impacts to the Highlands Parcel A project site were evaluated by ECORP Consultants in their 2002 *Biological Assessment for Crown Piece* ("ECORP report").

Vista Oaks and Highlands Parcel A

Special-Status Bird Species

The Harvey report notes that some special-status bird species may only be occasional visitors, migrants, or transients, or may only forage (rather than breed) on the project site. (Please refer to Impact 4.6I-14 for a discussion of impacts to Swainson's hawk, and Impact 4.6I-15 for evaluation of impacts to nesting raptors.) These species include the long-billed curlew, American peregrine falcon, bald eagle, golden eagle, sharp-shinned hawk, ferruginous hawk, merlin, prairie falcon, short-eared owl, burrowing owl, willow flycatcher, and Vaux's swift. The California mastiff bat is a mammal species that may also exhibit this transient behavior.

The Harvey report concludes that the proposed Vista Oaks project would have little effect on the breeding success of these species, although the project would result in a small reduction of foraging and/or roosting habitat available to them regionally. However, it should be noted that without a depredation permit from the U.S. Fish and Wildlife Service, take of any bird species protected under the Migratory Bird Treaty Act (including but not limited to those listed above) would constitute a violation of the law.

Reptile Species

The California horned lizard is listed by the State of California as a Species of Special Concern, but past surveys and the CNDDB report did not identify any findings of the California horned lizard on the project site. Therefore, the California horned lizard is not anticipated to occur on the project site and further surveys for this species are not warranted.

The riparian and aquatic habitats of Secret Ravine Creek provide suitable foraging, basking, and overwintering habitat for the western pond turtle, a State and federal Species of Concern. Because this species is extremely wary of humans, adult pond turtles that may be in aquatic habitats during summer months are likely to become disturbed and move away from the area during project construction activities. The CNDDB 2003 indicated that the nearest known occurrence of the pond turtle was less than three miles from the project site. Construction disturbances could result in the incidental loss of any turtles that may be present on the project sites.

Amphibian Species

The Harvey report notes that yellow-legged frog has been extirpated from this reach of Secret Ravine Creek through the introduction of non-native predators. The Harvey report goes on to say that even if yellow-legged frogs currently exist in the area, the proposed impacts to the creek would be minor,

and mitigation proposed in other sections of this document would adequately address concerns for this species. Additionally, the Harvey report notes that the Rocklin General Plan contains adopted findings of overriding consideration for impacts related to this species. Nonetheless, the foothill yellow-legged frog is listed by the State of California as a Species of Special Concern, but past surveys and the CNDDDB report did not identify any findings of the foothill yellow-legged frog on the project site. Therefore, the project site would not require an additional survey for the foothill yellow-legged frog.

Due to the similarities between the habitat types found on the Vista Oaks site and the adjacent Highlands Parcel A site, impacts to the species described above from Highlands Parcel A construction would be expected to be generally similar. Due to the transitory and/or elusive nature of some of the special-status species that may occur on the project site, past survey results cannot be relied upon to determine the presence or absence of the species, and thus further surveys are warranted to avoid or mitigate potentially significant impacts to special-status species. Therefore, a conservative assessment would assume that the proposed projects would have *potentially significant* impacts to wildlife and special-status species.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce project-related impacts to special-status species to a *less-than-significant* level.

The following mitigation measures are identified for the Vista Oaks and Highlands Parcel A projects.

- 4.6MM-2a *If construction is proposed by the developer during the breeding season (February-August) of special-status migratory bird species, the project applicant, in consultation with the City of Rocklin and CDFG, shall conduct a pre-construction migratory bird survey of the project site during the same calendar year that construction is planned to begin. The survey shall be conducted by a qualified biologist in order to identify active nests of any special-status bird species on the project sites. The results of the survey shall be submitted to the Community Development Department. If active nests are not found during the pre-construction survey, further mitigation is not required. If active nests are found, an adequately sized temporary non-disturbance buffer zone shall be determined based on CDFG consultation, shall be established around the active nest. Intensive new disturbances (e.g., heavy equipment activities associated with construction) that may cause nest abandonment or forced fledging shall not be initiated within this buffer zone between March 1 and September 1. Any trees*

containing nests that must be removed as a result of project implementation shall be removed during the non-breeding season (September to January).

4.6MM-2b Although surveys are not required, if a horned lizard is observed on the site, work shall cease in the area until the lizard can be moved to a safe location consistent with CDFG regulations. The above shall be completed for the review and approval by the City Engineer.

4.6MM-2c A pre-construction survey for western pond turtle shall be conducted by a qualified biologist prior to any grading or construction activity, to determine presence or absence of this species in the project site. If construction is planned after April 1st, this survey shall include looking for turtle nests within the construction area. If northwestern pond turtles are not found within the project site, no further mitigation is required. If juvenile or adult turtles are found within the proposed construction area, the individuals shall be moved out of the construction site with technical assistance from CDFG. If a nest is found within the construction area, construction shall not take place within 30 meters (100 feet) of the nest until the turtles have hatched.

If a turtle is observed on the site, work shall cease in the area until the turtle can be moved to a safe location consistent with CDFG regulations. The above shall be completed for the review and approval by the City Engineer. The survey shall be valid for one year; if construction does not take place within one year of the survey, a new survey shall be conducted.

4.6MM-2d Although surveys are not required, if a yellow-legged frog is observed on the site during the construction phase, work shall cease in the area until the frog can be moved to a safe location consistent with CDFG regulations. The above shall be completed for the review and approval by the City Engineer.

4.6MM-2e A pre-construction protocol-level survey for western spadefoot toad shall be conducted by a qualified biologist prior to any grading or construction activity, to determine presence or absence of this species on the project sites. The survey shall be conducted in accordance with all applicable CDFG guidelines. If western spadefoot toads are not found within the project site, no further mitigation is required. If juvenile or adult spadefoot toads are found within the proposed construction area, the individuals shall be moved out of the construction site with

technical assistance from CDFG. If spadefoot toad eggs are found within the construction area, construction shall not take place within 30 meters (100 feet) of the nest until the toads have hatched.

If a spadefoot toad is observed on the site, work shall cease in the area until the frog can be moved to a safe location consistent with CDFG regulations. The above shall be completed for the review and approval of the City Engineer. The survey shall be valid for one year; if construction does not take place within one year of the survey, a new survey shall be conducted.

4.6I-3 Impacts to steelhead and Chinook salmon due to increased recreational activity in and around Secret Ravine Creek.

Vista Oaks and Highlands Parcel A

The portion of Secret Ravine Creek within the project area currently experiences off-road vehicle use and human-associated uses in and adjacent to the creek. The development of the proposed projects is likely to decrease illegal off-road vehicle use, but increase recreational use of the creek due to the increase of people in the vicinity. Use of the trail and nature park are expected to have little or no direct impact on Chinook salmon or steelhead, or their habitats, because these activities would not significantly affect the water quality.

Although steelhead trout typically return to the Dry Creek Watershed area to spawn only in the fall, juvenile and smolt emigration occurs between the months of January and June. In addition, steelhead trout remain in the creek year round for several years. However, the timing and intensity of human disturbance to the creek would be somewhat influenced by water temperature and streamflow. People would be more likely to play in Secret Ravine Creek during the low-flow and corresponding warm temperature summer and early fall months. Adult salmon and steelhead prefer cool water temperatures and high flows for migration and spawning. The Dry Creek Conservancy Spawners surveys indicate that salmon and steelhead have repeatedly been found in Secret Ravine Creek in appreciable numbers when water temperatures get cooler during the fall. Cooler water and air temperatures during this period of time would likely prevent people from physically entering the creek and causing disturbance. Therefore, impacts to steelhead and Chinook salmon as a result of human disturbance would be considered *less-than-significant*.

Mitigation Measure(s)

None required.

4.6I-4 Construction-related impacts to steelhead trout and Chinook salmon.

Vista Oaks

The proposed Vista Oaks project includes 100 single-family residences on approximately 23.6 acres, as well as construction of a bicycle/pedestrian/trail and bridge which would also serve as emergency vehicle access. Construction of the proposed residences, trail, and bridge would have the potential to increase the likelihood of erosion off the site, temporarily degrading water quality on-site and downstream.

Steelhead trout and Chinook salmon are present in Secret Ravine Creek and both species are expected to continue spawning in the reaches of the watershed on site. The proposed project may result in the loss of individual steelhead or Chinook salmon or the loss of spawning habitat. In addition, because steelhead and Chinook salmon move through the site and may spawn in reaches either upstream or downstream of the project site, degradation of water quality during construction could affect steelhead and salmon both on the site and in downstream areas. Such water quality impacts would occur to a greater degree during the rainy season, and could therefore affect any on-site salmonids to a correspondingly greater degree, but the Streambed Alteration Agreement that would be required for the project would not allow construction activities during the rainy season. Construction activities on the project site would be subject to applicable federal and State water quality protection requirements, as required by the RWQCB under the terms of the U.S. EPA General Construction Permit. The project applicant would not be allowed to proceed without being in compliance with these water quality protection regulations, which include the preparation of a site-specific Stormwater Pollution Prevention Plan (SWPPP) identifying Best Management Practices (BMPs) to be implemented on the site. However, failure to adhere strictly to the permit conditions could allow water quality degradation to occur, resulting in impacts to salmonids on the site.

Highlands Parcel A

Construction on the Highlands Parcel A project site would be limited to 20 single-family residences and associated roadways, occupying a total of less than eight acres. The Highlands Parcel A project does not contain any component requiring construction in the channel of Secret Ravine Creek. As is the case with the proposed Vista Oaks project, construction-related sedimentation of Secret Ravine Creek originating on the Highlands Parcel A site would be minimized through the applicant's compliance with applicable federal and State water quality protection requirements, as required by the RWQCB under the terms of the U.S. EPA General Construction Permit. However, failure to adhere strictly to the permit conditions could allow water quality degradation to occur, resulting in impacts to salmonids on the site.

Conclusion

Adult salmon and steelhead prefer cool water temperatures and high flows for migration and spawning. The Dry Creek Conservancy Spawners surveys indicate that salmon and steelhead have repeatedly been found in Secret Ravine Creek in appreciable numbers when water temperatures get cooler during the fall. In addition, steelhead trout remain in the creek year round for several years, and steelhead trout typically return to the Dry Creek Watershed area to spawn only in the fall, juvenile and smolt emigration occurs between the months of January and June. Construction of the proposed bicycle/pedestrian/emergency access bridge within the stream channel of the Secret Ravine Creek could affect productive spawning for steelhead and Chinook salmon.

During the construction phase of a project such as the proposed Vista Oaks and Highlands Parcel A projects, soil erosion and resulting sedimentation would have the potential to contribute to adverse water quality impacts to nearby watercourses and the Chinook salmon and steelhead trout population, particularly during the rainy season when stormwater runoff would occur regularly. For this reason, the project applicant would be required to obtain a stormwater discharge permit (the Construction General Permit) from the RWQCB, as discussed in greater detail in Draft EIR Chapter 4.4, Hydrology and Water Quality. Typically, once project construction is completed, soil erosion should decrease with time, as the disturbed soils are reestablished with landscaping and natural growth.

Furthermore, one-day survey counts, conducted by the Dry Creek Conservancy, indicate that on November 21, 2004 and November 19, 2004 there were 77 and 88 Chinook salmon respectively within the Dry Creek Watershed between Roseville Parkway to Rocklin Road. Construction-related activities in and around Secret Ravine Creek could interrupt the fall spawning locations of the Chinook salmon and steelhead trout within the vicinity of the project site. Therefore, construction impacts to steelhead and Chinook salmon would be considered ***potentially significant***.

Mitigation Measure(s)

Implementation of Mitigation Measure 4.4MM-4a through -4c in the Hydrology and Water Quality chapter of this EIR (Chapter 4.4) would mitigate potential impacts on the Vista Oaks and Highlands Parcel A sites. In addition, implementation of the following mitigation measures would reduce bridge construction impacts from the proposed projects to *less-than-significant* levels.

The following mitigation measures are identified for the Vista Oaks project.

- 4.6MM-4a *Prior to any grading or construction activities; the proposed bridge shall be designed to be consistent with Southeast Rocklin Circulation Element policies 16 through 39, 41, and 44, and in consultation with the CDFG so as to ensure year-round passage of steelhead and Chinook through the area. The bridge shall be designed so that it traverses the creek in a manner that does not in any way impede its current flow.*
- 4.6MM-4b *Per Southeast Rocklin Circulation Element policy 25, once the precise location of any creek crossing is determined, the construction zone (corridor) shall be flagged to allow easy identification. Heavy equipment shall be operated only within this designated corridor.*

The following mitigation measures are identified for the Vista Oaks and Highlands Parcel A projects.

- 4.6MM-4c *Per Southeast Rocklin Circulation Element policy 28, construction within or along the channel shall be restricted to the time period selected by the CDFG, typically July 1 – September 30, the period in which there is very little water in the channel and in which movement of steelhead and Chinook salmon within the project area is expected to be minimal. Steelhead or salmon redds downstream from the site are not likely to be adversely affected, directly or indirectly, if construction occurs during this time. Furthermore, impacts to the movement of anadromous fishes through the project area should be minimal during this time.*
- 4.6MM-4d *Debris, soil, silt, sand, bark, slash, sawdust, cement, concrete, washings, petroleum products or other organic or earthen material shall not be allowed to enter into or be placed where it may be washed by rainfall or runoff into Waters of the State. Per Southeast Rocklin Circulation Element policy 20, a siltation and erosion and control program for stream crossing areas shall be designed and implemented prior to construction to the satisfaction of the City Engineer, and the Public Works inspector shall monitor ongoing construction activities to assure compliance. In addition, the project shall comply with the requirements of the Streambed Alteration Agreement and shall institute Best Management Practices (BMPs) as identified in the agreement, and in the project's stormwater management plan. The mitigation measures above shall be completed for the review and approval of the City Engineer.*

4.6I-5 Operational impacts to water quality and special-status fish from stormwater runoff.

Vista Oaks and Highlands Parcel A

Water quality in a riverine habitat such as Secret Ravine Creek is often affected by surrounding land uses. The project operational phase would see a shift from sedimentation to the increased nutrient loading and hydrocarbon deposition associated with a developed environment. Typically, the stormwater that initially runs off an area would be more polluted than the stormwater that runs off later, after the first rainfall has “cleansed” the area. The stormwater containing this high initial pollutant load is called the “first flush”. During the operational phase of the project, common household chemicals used by the on-site residents would result in some or all of the following pollutants entering the storm drain system: hydrocarbons (i.e., oil, grease), heavy metals (e.g., lead, chromium), sediments, turbidity, fecal coliform bacteria, soaps, (e.g., from vehicle washing), nutrients (i.e., fertilizers), and pesticides. Secret Ravine Creek, including the reaches adjacent to the project site and upstream of the project site, currently experiences some of these pollutants and sedimentation due to urbanization. The water quality parameters (e.g., contaminants, temperature, turbidity) that affect the fish within Secret Ravine Creek vary, and would change over time.

Stormwater runoff from the project sites could contain various contaminants with the potential to degrade water quality and special-status fish species habitat. Therefore, project-related impacts to water quality and special-status fish would be considered *potentially significant*.

Mitigation Measure(s)

Implementation of Mitigation Measure 4.4MM-4a through -4c in the Hydrology and Water Quality chapter of this EIR (Chapter 4.4) would mitigate potential impacts on the Vista Oaks and Highlands Parcel A sites to a *less-than-significant* level.

4.6I-6 Short-term impacts to native oak trees.

Vista Oaks

Sierra Nevada Arborists conducted a tree survey on the Vista Oaks project site in May 2002. Subsequent to the May 2002 report, and based on City recommendations to exclude all tree species except native oaks with TDBH (trunk diameter at breast height) of greater than six inches, Sierra Nevada Arborists issued a revised report in July 2003 (Appendix O). The 2003

revision identifies a total of 1,989 inventoried or sampled² oak trees on the Vista Oaks project site (comprising 29,414" TDBH), of which 469 (6,399" TDBH) are proposed for construction removals (mitigative) and 291 (2,612" TDBH) are proposed as arborist-recommended removals (non-mitigative). The arborist-recommended removals consist of diseased and/or structurally unsound oaks that may constitute a safety hazard to future residents in the project vicinity. The remaining 1,229 oaks (20,403" TDBH) would be preserved within the project site.

The result would be the removal of approximately 27 percent (469/1,698) of the existing native oak trees on the Vista Oaks site, not including the arborist-recommended removals. The 469 proposed removals represent 6,399" TDBH, again not including the arborist-recommended removals. It should be noted that trees identified as dead or dying are not counted in the number of inches to be removed total.

Highlands Parcel A

Sierra Nevada Arborists conducted a tree survey on the Highlands Parcel A project site in May 2002 and issued a revised report for the site in July 2003 (Draft EIR Appendix S). The 2003 revision, based on the City recommendations described above for Vista Oaks, identifies a total of 914 inventoried or sampled oak trees on the Highlands Parcel A site (comprising 8,828" TDBH), of which 173 (1,620" TDBH) are proposed for construction removals (mitigative) and 35 (483" TDBH) are proposed as arborist-recommended removals (non-mitigative). Therefore, 706 oaks (6,725" TDBH) would be preserved within Open Space Parcel A.

The removal of 1,620" TDBH on the project site would result in the loss of approximately 19 percent (173/914) of the existing native oak trees on the project site (not including the arborist-recommended removals).

Conclusion

In addition to tree removal proposed by the project, construction-related impacts can incur further tree losses from soil compaction and root disturbance. Oak trees take a relatively long time to reach a large size (>100 years) and it is nearly impossible to replace the biological habitat value of a mature oak tree by planting numerous small, young oak saplings. Because a substantial number of existing oak trees, which support a diverse ecosystem on the Vista Oaks and Highland Parcel A sites, would be lost within the near-term period, short-term impacts to oak trees would be considered *significant*.

² "Inventoried" trees are those within the proposed development areas on-site. The number of trees within the remainder of the project site ("sampled" trees) were estimated by Sierra Nevada Arborists using a sampling method based on visual observations made on-site. Please refer to the Arborist's Report(s) included in Appendices O and S of the Draft EIR.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the magnitude of impacts; however, the impacts would remain *significant and unavoidable*.

The following mitigation measures are identified for the Vista Oaks and Highlands Parcel A projects.

4.6MM-6a Prior any grading or construction activities, for oak trees six inches in diameter or greater that are to be removed, the project applicant shall comply with provisions of the City of Rocklin Tree Ordinance (Chapter 17.77 of the Rocklin Municipal Code (Ordinance 676) and policy 37 of the Southeast Rocklin Circulation Element, payment of fees and/or replacement of trees. Some of the requirements include but are not limited to the replacement of trees or payment of an in-lieu fee for the removal of oak trees (The City of Rocklin Oak Tree Preservation Guidelines) and that trees to be retained near the construction alignment of any road shall be fenced in accordance with the Oak Tree Ordinance to prevent access by heavy equipment. Prior to the removal of any oak trees, the project applicant shall obtain a tree permit from the City, which will include provisions for replacing lost trees. All replacement trees shall be of a 15-gallon size and shall be planted on residential lots and open space areas. The plan shall specify monitoring requirements including required inspections for at least a five-year period. The above shall be done for the review and approval of the Community Development Director.

4.6MM-6b If adequate locations cannot be found to replace all removed oak trees, then the remaining mitigation requirement may be met through payment into the existing City of Rocklin Tree Preservation Fund at the rate and formula specified in the City of Rocklin Municipal Code. Such payments shall be made prior to any grading or construction activities, with the review and approval by the Community Development Director.

4.6I-7 Long-term impacts to native oak trees.

Vista Oaks and Highlands Parcel A

As discussed above in Impact 4.6I-4, Sierra Nevada Arborists' surveys of May 2002, as revised in June and July 2003, identify 1,989 inventoried or sampled oak trees on the Vista Oaks project site, as well as 914 inventoried or sampled oak trees on the Highlands Parcel A site. A total of 642 trees are

proposed for construction removal, not including an additional 326 trees proposed for removal due to disease and/or structural instability. Short-term impacts associated with this tree loss are identified as significant and unavoidable; however, long-term impacts associated with the loss of native oaks, while *potentially significant*, are mitigable with replanting as well as the other mitigation measures identified in 4.6MM-4a through -4b.

Mitigation Measure(s)

Implementation of Mitigation Measures 4.6MM-6a through -6b would reduce long-term impacts to native oak trees on the Vista Oaks and Highlands Parcel A project sites to a *less-than-significant* level.

4.6I-8 Impacts to freshwater emergent wetland habitat.

Vista Oaks and Highlands Parcel A

Sensitive habitats on the Vista Oaks and Highlands Parcel A project sites include jurisdictional Waters of the U.S., as shown in Table 4.6-1. In addition, the section of Secret Ravine Creek on the site is also part of a local common wildlife corridor, which is subject to review under CEQA.

Construction of the proposed Vista Oaks project would result in the direct loss of 0.86 acres of wetlands on the project site, while the Highlands Parcel A project would result in the loss of 0.18 acres of wetlands. Prior to development, the project applicant would be required to comply with the provisions of Section 404 of the federal Clean Water Act, regulating discharge of dredged material or fill into wetlands, as administered by the ACOE. Due to the proposed removal of riparian vegetation and work within the bed and/or bank of Secret Ravine Creek resulting from construction of the proposed bridge, the applicant would also be required to comply with Section 1603 of the State Fish & Game Code and obtain a Streambed Alteration Agreement from CDFG. The ACOE requires no net loss of wetlands when issuing Section 404 permits. Construction of the proposed projects without the acquisition of the appropriate permits and adequate avoidance and/or mitigation measures would result in *potentially significant* impacts to wetlands and other sensitive habitats.

Mitigation Measure(s)

Implementation of the following mitigation measures would comply with the mitigation requirements under Sections 404 and 1603 and would reduce impacts from the proposed projects to a *less-than-significant* level.

The following mitigation measures are identified for the Vista Oaks and Highlands Parcel A projects.

4.6MM-8a *Prior to issuance of Improvement Plans, the City shall require the project applicant and/or any developers to mitigate impacts to ensure the avoidance of any net loss of seasonal wetlands and jurisdictional waters of the United States, or the bed, channel, or bank of any stream. Such avoidance may be achieved by implementing and complying with the provisions of the Clean Water Act, as administered by the U.S. Army Corps of Engineers (ACOE), under Section 404 of the Clean Water Act, and under Sections 1600-1607 of the California Fish and Game Code, as administered by the CDFG, which includes obtaining all required permits from the ACOE and entering into a Streambed Alteration Agreement with CDFG and complying with all terms and conditions of those permits and agreements. If CDFG determines that an SAA is warranted, the SAA may include conditions such as:*

- *Protection and maintenance of the riparian, wetland, stream or lake systems to ensure a “no-net-loss” of habitat value and acreage. Vegetation removal shall not exceed the minimum necessary to complete operations.*
- *Provisions for the protection of at-risk fish and wildlife resources that consider various life stages, maintain migration and dispersal corridors, and protect essential breeding (i.e., spawning, nesting) habitats.*
- *Delineation of buffers along stream and wetlands to provide adequate protection to the aquatic resource. Grading or construction activities shall not be allowed within these buffers.*
- *Placement of construction materials, soils, or fill such that they cannot be washed into a stream or lake.*
- *Prevention of downstream sedimentation and pollution. Provisions may include but not be limited to oil/grit separators, detention ponds, buffering filter strips, silt barriers, etc. to prevent downstream sedimentations and pollution.*
- *Restoration plans shall include performance standards such as the types of vegetation to be used, the timing of implementation, and contingency plans if the replanting is not successful. Restoration of disturbed areas shall utilize native vegetation.*

In order to comply with Public Resources Code Section 21081.6, a detailed monitoring program shall be developed for all mitigation conditions within the SAA. The monitoring program shall include but not be limited to the following:

- *Specific criteria to measure the effectiveness of mitigation.*
- *Annual monitoring for a minimum of five years. Annual written reports submitted to the lead agency and the DFG Sacramento Valley-Central Valley Sierra Region. The annual monitoring reports shall include corrective recommendations that shall be implemented in order to ensure that mitigation efforts are successful.*

4.6MM-8b Prior to any grading or construction activities, the project proponent shall apply for and obtain a permit from the ACOE. The project proponent shall comply with the terms and conditions of the permit.

4.6MM-8c Prior to any grading or construction activity, the applicant shall choose from the various options available to mitigate for the loss wetlands. Various options include the following:

- *Mitigation credits in the amount specified by the ACOE, the CDFG, and/or the USFWS as applicable, may be purchased from a previously approved mitigation bank in the region. Such purchase would be approved by the appropriate agencies. This mitigation measure shall be implemented prior to any grading or construction activity, with the review and approval by the City Engineer.*
- *Prior to any grading or construction activity, the applicant may construct replacement wetlands either on-site, or at an approved off-site location based on the mitigation ratio's determined through the permitting process, with the review and approval by the City Engineer. Adequate area shall be available on-site, along Secret Ravine Creek and/or within the 100-year floodplain, for seasonal wetland mitigation.*

In addition, a detailed wetland restoration plan shall be prepared in consultation with a qualified restoration biologist. This detailed wetland restoration plan shall provided for the replacement of lost wetland habitat area for replacement wetlands as well as the location of on-site restoration opportunities, complete with an analysis of the technical approach to create high quality wetlands.

In the event that on or off-site wetlands are to be constructed, the project proponent shall comply with the recommendations and conditions contained in the ACOE permit.

As discussed in the Hydrology and Water Quality chapter of this EIR, water quality in the wetland areas shall be protected using approved erosion control techniques during construction on the project site (see Mitigation Measure 4.4MM-4a). Urban runoff shall also be managed to protect water quality of the wetland areas.

4.6I-9 Impacts to natural habitat, including the loss of oak woodland and riparian woodland.

Vista Oaks and Highlands Parcel A

Oak Woodland Habitat

Oak trees support a diverse community of insects and wildlife in both their overstory (branches and leaves) and in their understory (grasses, brush, and limbs on the ground under the tree). California's oak woodlands are the most biologically diverse broad habitat in the state (Standiford et al, 2000). Oak woodlands have been reduced in California to such an extent that the loss of any oak trees must be considered a substantial loss of habitat for many native species. The project site is heavily wooded and contains a significant number of native oak trees and other mature tree species that provide habitat, food, and winter cover for a number of different species.

Oak woodlands are not only composed of trees, but also of shrubs, leaf litter, grasses, forbs, and downed woody debris – all of which are interrelated and are used to support a diverse ecosystem. Removing trees reduces canopy closure that in turn changes the light regime, microclimate, shrub density, downed woody debris, litter layer, and other factors. The animals associated with the loss of this habitat react differently to such changes and their reactions cannot necessarily be predicted, but it should be noted that along with urbanization comes the introduction of exotic species such as house sparrows, and domestic dogs and cats which compete with or prey upon native wildlife. Certainly, an interdependency exists between oak woodlands and the wildlife found there, especially in terms of oak reproduction.

Oak woodlands also protect soil from erosion and landslides. The oaks regulate water flow and maintain water quality in streams and rivers. Concentrations of major nutrients in the soil beneath an oak canopy are significantly higher than in soil found in adjacent grasslands, indicating a more nutrient rich soil environment beneath the tree canopy. Soils beneath an oak canopy are characterized by having higher organic matter concentrations due to annual contribution of leaves and other organic debris. In addition to providing nutrients, higher organic matter concentrations lead to lower soil bulk density and greater porosity, which increases infiltration rates for rainfall

and reduces surface runoff and erosion. Because the Vista Oaks and Highlands Parcel A project sites contain a significant number of native oak woodlands that provide habitat, food, and winter cover for a number of different species, potential impacts to oak woodland habitat would likely occur.

Riparian and Scrub Habitat

Riparian and scrub habitat is well developed and occurs throughout the project sites along Secret Ravine Creek, which meanders through a sandy, silty floodplain. The riparian woodland consists in part of immature arroyo willows, coyote brush, Himalayan blackberry, and herbaceous hydrophytic species, including mugwort, poison hemlock, and blue vervain. Several small, scattered patches of Baltic rush occur along the streambank on the south side of Secret Ravine Creek. Immediately upstream of the Highlands Parcel A project site, the creek is more confined to an incised, boulder-lined channel. The riparian corridor throughout both sites provides food, water, refuge, and migration and dispersal corridors for various wildlife species. A higher density of birds and mammals would be expected to occur in this habitat than in other existing on-site habitats.

Construction of the proposed multi-use trail through the Vista Oaks and Highlands Parcel A project sites would be expected to result in impacts to approximately 0.5 acres of riparian woodland habitat, potentially including the removal of mature riparian woodland trees. (The Highlands Parcel A Tentative Map [Sheet 4] revised March 2004 shows that impacts to riparian areas would occur on 0.13 acres out of 3.45 total riparian habitat acres (3.8 percent) on the site. Such figures are not provided on the Vista Oaks Tentative Maps, but a proportional estimate of existing and potentially affected riparian acreage on the Vista Oaks site gives figures of 10 acres for existing and 0.38 acres for potentially affected. The combined estimated total of potentially impacted riparian habitat for both sites is therefore approximately 0.5 acres.) In addition, construction of the proposed bridge across Secret Ravine Creek (Vista Oaks site) and the proposed trail (both sites) would result in a loss of some Shaded Riverine Aquatic (SRA) habitat, which could potentially cause adverse impacts to special-status fish species. The removal of riparian vegetation would also result in the loss of other functions (e.g., input of organic matter to the stream, trapping of sediments during high flows, and support of potential prey), although this impact would be expected to be low, due to the small amount of riparian vegetation to be removed as a result of this project.

Special-Status Bird Habitat

As noted in the Harvey report, construction of the multi-use trail may result in the loss of potential nesting habitat (i.e., trees/shrubs) for the yellow-breasted chat. However, because only a few trees would be impacted, and potential nest trees are relatively abundant in the surrounding area, impacts to the yellow-breasted chat habitat would be minimal. Additionally, the Harvey report finds that the loggerhead shrike, a fairly common breeder in central California, could potentially breed on the site in small numbers. The project site represents only a small fraction of the available breeding habitat for this species in the region. Therefore, impacts to loggerhead shrike habitat from development of the project site would be minimal.

Reptile Habitat

The Harvey report notes that construction of the multi-use trail would result in the loss of a small amount of habitat for the California horned lizard. However, due to the relatively small size of the area expected to be impacted, associated losses of habitat would be considered minimal.

Amphibian Habitat

The Harvey report concludes that construction of the proposed bicycle/pedestrian/emergency access bridge, and the resulting disturbance within the stream channel of Secret Ravine Creek, could result in the loss of habitat supporting foothill yellow-legged frog, if this species is present in the project area.

The July 2002 ECORP biological assessment for the site identified suitable habitat for the western spadefoot toad (*Scaphiopus hammondi*) on the project site. The CNDDB 2003 indicates that the western spadefoot toad has been recorded as occurring less than three miles from the project sites.

The Harvey report notes a regional abundance of similar habitat areas to those discussed above, as well as the infrequency with which most of the special-status species occur on the project site. In addition, project design elements such as the proposed open space areas and the existing VELB mitigation area would reduce adverse impacts to special-status species habitats. However, given that directed special-status species surveys for the species noted above have not been recently conducted on the two project sites, the potential exists for the special-status species noted above to occur on the project site.

The Vista Oaks and Highlands Parcel A project sites would involve the removal of approximately 0.5 acres of riparian woodland habitat out of at least 12 acres on both sites and would have a minimal effect on riparian habitat riparian corridor resulting from trail and bridge installation. In addition,

impacts to special-status bird habitats, reptile habitats, and amphibian habitats as a result of the construction of the project sites would be minimal. Construction within the area would be subject to all applicable conservation regulations, including the City's Oak Tree Preservation Guidelines. Although minimal impacts would occur to the majority of habitats on the project sites, removal of any native oak woodlands would be considered a *significant* impact to oak woodland habitats as a result of project implementation. It should be noted that the Vista Oaks and Highlands Parcel A projects contribute to the cumulative loss of habitat that was overridden by the City Council, as referenced in Impact 4.6I-14.

Mitigation Measure(s)

Implementation of Mitigation Measures 4.6MM-6a and 4.6MM-6b in the Biological Resources chapter of this EIR (Chapter 4.6) would reduce the magnitude of impacts; however, the impacts would remain *significant and unavoidable*.

4.6I-10 Impacts to northern volcanic mudflow vernal pools and vernal pool invertebrates.

Vista Oaks and Highlands Parcel A

Vernal pools constitute an important natural resource due to their unique flora and fauna. Agricultural and urban development in California has resulted in the loss of considerable vernal pool habitat, including land surrounding the pools that contributes to their hydrology.

Construction of the proposed Vista Oaks project would result in the loss of 0.003 to 0.01 acres of vernal pool habitat (see pp. 4.6-18 and 4.6-19), while approximately 0.18 acres of seasonal wetlands on the Highlands Parcel A site could provide current vernal pool habitat. Project implementation would also result in the loss of some annual grassland habitat that contributes to the vernal pool hydrology on the sites. As a result, habitat for the federally-protected vernal pool fairy shrimp and vernal pool tadpole shrimp could be destroyed, which would be considered a "take" under the federal Endangered Species Act without proper mitigation. As previously discussed, the Harvey report (August 2003) found that the Vista Oaks project site currently provides marginal habitat at best for vernal pool crustaceans. Nevertheless, the report found that a small possibility exists for these species to exist on-site. ECORP (July 2002) indicated that the seasonal wetlands on Highlands Parcel A could potentially provide vernal pool crustacean habitat as well, and directed surveys for these species have not been conducted on either project site. The destruction of vernal pool habitat resulting from project implementation would therefore be considered *potentially significant*.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce impacts from the proposed projects to a *less-than-significant* level.

The following mitigation measure is identified for the Vista Oaks and Highlands Parcel A projects.

4.6MM-10a Project design shall avoid vernal pool habitat if feasible. If avoidance is not feasible, prior to any grading or construction activities, a pre-construction protocol-level survey (2 years worth of surveying) shall be conducted on the project sites by a qualified biologist in order to identify the presence of any vernal pool-associated special-status plant or animal species on the project sites. The project applicant may choose the option of assuming the presence of vernal pool-special status plants and/or species rather than conducting a 2-year pre-construction protocol-level survey. Assuming the presence would include appropriate mitigation ratios and options. Furthermore, if the project applicant chooses to conduct surveys, the results of the surveys shall be submitted to CDFG and the Community Development Department for review.

- a. If (during the 2-year pre-construction protocol-level survey) special-status plant or animal species or both are determined not to occur on site, an off-site preservation/loss ratio of 2:1 shall be implemented.*
- b. If (during the 2-year pre-construction protocol-level survey) any special-status species are displaced, a 3:1 mitigation ratio will be utilized. Mitigation requirements may be met through one of the following means, with the review and approval by the Community Development Director:*
 - 1. The purchase of vernal pool preservation credits at an approved mitigation or conservation bank in the region;*
 - 2. The purchase and set aside of acreage within or adjacent to an existing vernal pool preserve in the region. Preserves should be sufficiently large as to ensure viability and manageability, and should include adequate natural uplands and buffer areas to prevent encroachment by adverse human activities. Preserves should be located as near as possible, have a similar hydrologic regime, and occur on the same soil type as those being lost, to*

*conserve local genetic interactions and provide habitat for species important in these interactions;
or*

3. *Payment of fees into the Vernal Pool Mitigation Account established by the U.S. Fish and Wildlife Service and managed by the Center for Natural Lands Management.*

The vernal pools were identified in both of the wetland delineation reports previously referenced (Gibson & Skordal 1999, ECORP Consulting 2001). The delineation of these pools has been verified by the ACOE. Should it be documented, or assumed, that vernal pool fairy shrimp occur on this site, authorization for the take of these resources could be provided through an existing programmatic Section 7 consultation between the ACOE and USFWS which would include appropriate mitigation ratios and options.

4.6I-11 Impacts to special-status plants.

Vista Oaks and Highlands Parcel A

ECORP Consulting conducted a Rare Plant Survey on the Vista Oaks site on April 19, 2002. The survey targeted three species: Boggs Lake hedge-hyssop, slender Orcutt grass, and Sacramento Orcutt grass. The surveyors did not find special-status plant species on the project site (ECORP, October 2002). Additionally, ECORP discussed special-status plant species on the Highlands Parcel A site in their July 2002 *Biological Assessment for Crown Piece*, noting that the majority of such plant species that may occur on-site (which are the same potentially-occurring species as on the Vista Oaks site) are associated with vernal pool habitat, while the riparian habitat along Secret Ravine Creek may contain Sanford's arrowhead, a federal Species of Concern.

A peer review of the existing special-status plant species documentation for both project sites was conducted in May 2005 by Foothill Associates. The Foothill Associates evaluation provides the most recent basis for the rare plant discussion on pages 4.6-12 through 4.6-16, as well as in Table 4.6-1. As noted in the table, certain of the species identified in the CNDDDB search are believed to have no potential for occurrence on the project sites. However, Foothill determined that because suitable habitat for several of the species identified by the CNDDDB does occur at both sites, additional directed rare plant surveys are warranted. For this reason, project-related impacts to rare plants would be considered *potentially significant*.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce impacts from the proposed projects to a *less-than-significant* level.

The following mitigation measure is identified for the Vista Oaks and Highlands Parcel A projects.

4.6MM-11 Prior any grading or construction activities, pre-construction protocol-level surveys shall be conducted by a qualified biologist on the portions of the project sites planned for development, in order to identify the presence of any of the special-status plant species identified in Table 4.6-1. Pre-construction protocol-level surveys shall be conducted during the appropriate blooming period (March-October) for all plant species to adequately ensure recognition of potentially-occurring species. Because the blooming period of all potentially-occurring plant species covers a wide range, a minimum of three focused rare plant surveys timed approximately one month apart are recommended from April through June to cover the peak blooming period. The results of the surveys shall be submitted to CDFG and the Community Development Department for review.

If, as a result of the survey(s), special-status plant species are determined not to occur on the sites, further action shall not be required. If special-status plant species are detected on either site, locations of these occurrences shall be mapped with GPS and consultation with CDFG shall be initiated, and a mitigation plan shall be prepared based on the consultation. The plan shall detail the various mitigation approaches to ensure no net loss of plant species.

4.6I-12 Impacts to valley elderberry longhorn beetle (VELB).

Although elderberry shrubs themselves do not have special legal status, elderberry bushes provide the sole habitat for the federally-protected valley elderberry longhorn beetle (VELB). VELB populations have declined due to habitat loss, as their sole host plant, the elderberry shrub, has increasingly been destroyed to make way for urban and agricultural land uses. The U.S. Fish and Wildlife Service (USFWS) has adopted a standard mitigation protocol for VELB. If elderberry plants with one or more stems measuring 1.0 inch or greater in diameter at ground level occur on, or adjacent to, a project site, or are otherwise located where they may be directly or indirectly affected by the proposed action, mitigation is required.

Vista Oaks and Highlands Parcel A

Elderberry bushes exist on both project sites with approximately 25 elderberry bushes on the Vista Oaks site. Approximately 18 of the 25 elderberry bushes would indirectly be impacted by the proposed project while 4 elderberry bushes would be directly impacted by construction of the project site. The majority of elderberry bushes in the project area are located on the Highlands Parcel A site, most of which occur within the valley elderberry longhorn beetle conservation area. In addition, a fair number of elderberry bushes, outside of the conservation area, are present on the Highlands Parcel A project site. Approximately 30 additional elderberry bushes would indirectly be impacted as a result of construction of the Highlands Parcel A project site. In addition, approximately 19 elderberry bushes on the Highlands Parcel A site would be directly impacted as a result of the proposed project. Many of these bushes contain stems 1.0 inches or greater in diameter. To the extent possible, elderberry bushes on the Vista Oaks and Highlands Parcel A project sites would be avoided in the site design.

The VELB conservation area is comprised of approximately 3.2 acres. Several hundred elderberry bushes exist in the conservation area on the site. Thirteen of these bushes would be removed during project construction, and project construction activities would occur within 100 feet of other elderberry shrubs. In addition, the proposed bicycle/pedestrian/emergency access trail alignment crosses and encroaches into the northern edge of the Highlands VELB Conservation Area.

However, most of the on-site elderberry shrubs would be incorporated into the 3.2-acre VELB Conservation Area as a portion of Open Space Parcel A on the Highlands site. According to the ECORP biological assessment for the Highlands Parcel A site (ECORP, July 2002), the Conservation Area contains 433 native elderberry plantings, 337 mitigation plantings, and an additional 47 elderberry bushes transplanted from the Highlands at Cavitt Ranch subdivision located to the south. Additional elderberry bushes would be preserved by the applicant within Open Space Parcel C on the Vista Oaks site and Open Space Parcels B and C on the Highlands Parcel A site. Impacts relating to the presence of the proposed trail within the northern boundary of the VELB Mitigation Area would occur, because as shown on the March 2004 Tentative Map for the site (Sheet 4), elderberry shrubs exist within the proposed trail alignment which encroaches upon the 100 foot buffer requirement established by USFWS. For the reasons noted above, impacts to VELB on the Highlands Parcel A site would be considered *potentially significant*.

Mitigation Measure(s)

Implementation of the following mitigation measures provided by the USFWS would reduce impacts to *less-than-significant* levels.

The following mitigation measures are identified for the Vista Oaks and Highlands Parcel A projects.

- 4.6MM-12a *The City shall require the project applicant and/or any developers filing tentative maps to mitigate impacts to elderberry shrubs hosting the Valley Elderberry Longhorn Beetle by avoiding any net loss of such shrubs. Such avoidance may be achieved by entering into a formal consultation with the USFWS by obtaining the necessary take permit for VELB, and by taking all necessary steps required to comply with the take permit issued by USFWS for avoidance and replacement of elderberry shrubs consistent with USFWS guidelines.*
- 4.6MM-12b *Prior to any grading or construction activities, elderberry shrubs on the project site shall be protected and incorporated into the landscape or open space areas, if feasible. Prior to the commencement of any grading or construction activities, the applicant shall place protective fencing around elderberry shrubs not scheduled for removal, creating a 100-foot buffer protection zone. All construction activities and equipment shall remain outside of the 100-foot buffer protection zone throughout the construction period. It should be noted that the 100-foot buffer protection zone may not be able to be provided in all instances during construction. The applicant shall consult with USFWS prior to construction to determine what measures shall be taken to reduce impacts of construction activities to the elderberry shrubs. In addition, construction activities shall be monitored by a qualified biologist.*
- 4.6MM-12c *If impacts to individual elderberry bushes cannot be avoided, the City will require mitigation consistent with the USFWS requirement for transplantation and/or replacement. Each elderberry stem measuring 1.0 inch or greater in diameter at ground level that is adversely effected (i.e., transplanted or destroyed) must be replaced with elderberry seedlings or cuttings at a ratio ranging from 2:1 to 5:1 (new plantings to affected stems) dependent on the presence/absence and density of beetle exit holes in the effected bush. The exact ratio and specific conditions related to the transplantation or replacement requirement would be determined through consultation with the USFWS.*

4.6I-13 **Impacts to nesting raptors.**

Vista Oaks and Highlands Parcel A

The Biological Report, prepared by H.T. Harvey & Associates, for the Vista Oaks project site indicates that red-tailed hawks, red-shouldered hawks, great horned owls, Swainson's hawks, and several other raptor species including the northern harrier and Cooper's hawk, both California Species of Special Concern, are known, or are expected, to nest in the vicinity of the project area. Raptors (e.g., eagles, hawks, and owls) and their nests are protected under both federal and State law. In addition, as described in the ECORP report for the Highlands Parcel A project site, the potential for raptor species to occur on the site exists because of the similar combination of oak woodland, annual grassland, and riparian corridor. Raptors that could potentially nest on the site include the following: white-tailed kite, Cooper's hawk, Northern harrier, Swainson's hawk, and western burrowing owl. Special-status raptor species that may seasonally forage within the project area, but are not expected to nest on-site include the following: sharp-shinned hawk, ferruginous hawk, golden eagle, merlin, prairie falcon, and short-eared owl. It should also be noted that all raptors, including common non-listed species, such as red-tailed hawk, red-shouldered hawk, and great horned owl, and their nests, are fully protected pursuant to Section 3503.5 of the Fish and Game Code of California.

Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered a "take" by the CDFG. Any loss of fertile raptor eggs or nesting raptors, or any activities resulting in raptor nest abandonment, may result in a potentially significant impact. Construction activities such as tree removal, site grading, etc., that disturb a nesting raptor on-site or immediately adjacent to the construction zone would also constitute a potentially significant impact. Implementation of the proposed projects would result in the removal of approximately 978 trees (including diseased and/or structurally unsound trees which nonetheless provide wildlife habitat). Therefore, because the habitat on project site provides moderately suitable nesting habitat, impacts from construction of the proposed project would be *potentially significant* to nesting raptors.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce impacts from the proposed projects to *less-than-significant* levels.

The following mitigation measures are identified for the Vista Oaks and Highlands Parcel A projects.

4.6MM-13a Prior to any grading or construction activity, the project applicant, in consultation with the City of Rocklin and CDFG, shall conduct a pre-construction breeding-season survey (approximately February 15 through August 1) of the project site during the same calendar year that construction is planned to begin. The survey shall be conducted by a qualified raptor biologist to determine if any birds-of-prey are nesting on or directly adjacent to the Proposed Project site.

If phased construction procedures are planned for the proposed project, the results of the above survey shall be valid only for the season when it is conducted.

A report shall be submitted to the City of Rocklin following the completion of the survey that includes, at the minimum, the following information:

- A description of methodology including dates of field visits;*
- the names of survey personnel with resume;*
- a list of references cited and persons contacted;*
- and a map showing the location(s) of any raptor nests observed on the project site.*

If the above survey does not identify any nesting raptor species on the project site, further mitigation would not be required. However, should any raptor species be found nesting on the project site, the following mitigation measures shall be implemented.

4.6MM-13b Prior to any grading or construction activities, the following mitigation measures shall be completed for the review and approval by the City Engineer. The project applicant, in consultation with the City of Rocklin and CDFG, shall avoid all birds of prey nest sites located in the project site during the breeding season while the nest is occupied with adults and/or eggs or young. The occupied nest shall be monitored by a qualified raptor biologist to determine when the nest is no longer used. Avoidance shall include the establishment of a nondisturbance buffer zone around the nest site. The size of the buffer zone would be determined in consultation with the City and CDFG. Highly visible temporary construction fencing shall delineate the buffer zone.

4.6MM-13c If the nest of any legally-protected species is located in a tree designated for removal, the removal shall be deferred until after August 30th, or until the adults and young are no longer

dependent on the nest site, as determined by a qualified biologist.

Cumulative Impacts and Mitigation Measures

The cumulative context is based on the implementation of the proposed project in combination with other proposed and pending projects in the region. In addition, cumulative impacts are analyzed based on how the proposed projects would contribute incrementally to the cumulative loss of native plant communities, wildlife habitat values, special-status species and their potential habitat, and wetland resources within the City of Rocklin and the surrounding region.

4.6I-14 Cumulative impacts related to loss of native plant communities, wildlife habitat values, special-status species and their potential habitat, and wetland resources in the region.

Vista Oaks and Highlands Parcel A

The City of Rocklin General Plan EIR states that development could directly and indirectly affect biological resources. The development of natural areas could cause loss of important wildlife habitats or uncommon plant communities. The General Plan EIR finds cumulative impacts on biological resources resulting from urbanization of the City of Rocklin under the General Plan to be significant and unavoidable¹².

The proposed projects would contribute incrementally to the cumulative loss of native plant communities, wildlife habitat values, special-status species and their potential habitat, and wetland resources. Growth and urbanization of the City of Rocklin, and other nearby areas, cumulatively contribute to the loss of these resources. As described in the environmental setting section, the project sites support a rich and diverse flora and fauna. Construction and operation of the proposed projects would degrade and/or destroy some of these resources, which would contribute to the cumulative loss of biological resources in the region. Therefore, the projects' contribution is cumulatively considerable and cumulative impacts on biological resources are considered *significant*.

Mitigation Measure(s)

Implementation of Mitigation Measures 4.6MM-2, and 4.6MM-4 through 4.6MM-13 identified in this chapter would reduce the magnitude of impacts for the Vista Oaks and Highlands Parcel A project sites; however, the impacts would remain *significant and unavoidable*.

Endnotes

¹ *Biological Report*, H.T. Harvey & Associates, August 19, 2003.

² *Rare Plant Survey*, ECORP Consulting, Inc., October 8, 2002.

³ *Updated Tree Inventory and Impact Assessment - Vista Oaks, Rocklin*, Sierra Nevada Arborists, July 1, 2003.

⁴ *Vista Oaks, Rocklin Tree Impact Calculation*, Terrance Lowell & Associates, January 4, 2005.

⁵ *Biological Assessment for Crown Piece*, ECORP Consulting, Inc., July 3, 2002.

⁶ *Results of a Peer Review Conducted for the Highlands Parcel A Project in the City of Rocklin*, Foothill Associates, September 12, 2003.

⁷ *Further Updated Tree Inventory and Impact Assessment – Highlands Parcel A*, Sierra Nevada Arborists, June 11, 2003.

⁸ *Results of a Peer Review for the Potential Presence of Special-Status Plant Species for the Highlands Parcel A and Vista Oaks Properties*, Foothill Associates, May, 26, 2005.

⁹ *Species List for Vista Oaks, Placer County, CA*, U.S. Fish and Wildlife Service, December, 3, 2001

¹⁰ *Wetlands verification letter, Vista Oaks project*, U.S Army Corps of Engineers, July, 29, 2002.

¹¹ Martin, Bob. Phone conversation with Jessica Hankins. September 21, 2005.

¹² Resolution No. 91-114, Resolution of the City Council of the City of Rocklin Certifying the Final Environmental Impact Report, Making Findings of Overriding Considerations, and Directing the Environmental Coordinator to file a Notice of Determination.